Federal-Provincial Study on the Cost of Government and Expenditure Management

Summary

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Department of Finance Canada
Ministère des Finances Canada

PREFACE

This document presents a summary of research undertaken by a joint working group of federal and provincial officials, at the request of Ministers of Finance and Treasurers. A detailed account of this research is being published separately. In this summary, the features of individual provinces and territories are not usually identified. Readers interested in this aspect of the research are referred to the detailed document.

The work was essentially fact-finding in nature and designed to shed light on a number of key issues in the area of government spending. As such, the analysis and findings contained herein should be seen as those of the working group and should not be construed as representing the views and/or position of governments or Ministers of Finance and Treasurers. And, in fact, it should not be assumed that there was unanimous agreement of the working group in respect of every finding and conclusion in the report.

The main data sources, from Statistics Canada, are the Financial Management System (FMS) and the Canadian Income and Expenditure Accounts (CIEA), or National Accounts. The FMS is a standardized set of public accounts providing data according to a consistent definition of spending functions across jurisdictions. The CIEA also provide consistent data across jurisdictions. A major advantage of the FMS data is the degree of detail provided on spending functions while a major advantage of the CIEA data is the length of the historical time series.

CAVEATS

- Reflecting the Ministers and Treasurers' specific concerns, the study deals only with spending. No attempt is made to analyze the evolution of revenues or to draw conclusions on budget balances.

- Inter-provincial/territorial comparisons may present problems. Reflecting institutional differences, the content of a spending category may differ across provinces. A case in point is the social services category which encompasses numerous programs targeted at different clienteles and operating under different parameters, even if these programs are aggregated under the same general category. Furthermore, the structure of a spending category in a jurisdiction may evolve over time.

- The focus of the analysis is often on ratios of spending to GDP. This allows for more meaningful comparisons across jurisdictions as it takes into consideration the capacity of a jurisdiction to finance a given level of spending. As such, spending-to-GDP ratios reflect the relative evolution of the two components. An increase in a ratio may reflect stable spending combined with a decline in the GDP. In some provinces, the evolution of nominal GDP is strongly influenced by the volatility of commodity prices. Also, the fact that the economic activity is not always synchronized between the jurisdictions may impact on inter-provincial comparisons of spending ratios.

- The study focuses on the major spending pressures on governments in Canada. Although some efforts went into identifying provincial differences from national patterns, this aspect of the study was not carried to its fullest extent.

- Finally, it is crucial to emphasize that the mechanical extrapolations of government spending presented in the study are essentially illustrative and do not represent forecasts of any spending components. They are only mechanical extrapolations reflecting assumptions about the main components of various spending categories.

1.0 Introduction

In January 1991, federal and provincial Finance Ministers and Treasurers asked their officials to carry out a joint study focusing on the growth of government spending.

Three questions addressed by the study are:

- What have been the major pressures on government spending since the mid-1970s?
- What are the likely pressures on spending in the 1990s and beyond?
- What action has been taken by governments inside and outside Canada to counter spending pressures?

2.0 Historical Pressures on Government Spending

2.1 Summary of Trends in Spending between 1975 and 1989

Charts 1 and 2 illustrate trends in the major federal and provincial-local-hospital (PLH) spending aggregates on a National Accounts, calendar-year basis. Aggregate PLH trends may not reflect developments in each province. The principal messages are that:

- The GDP share of total government spending increased modestly from 39.5 per cent to 42.4 per cent.
  - But within this period, spending increased rapidly to peak at 45.7 per cent in 1983 and then fell.
  - Both levels of government shared in this rise and fall.
- Within total spending, there was a marked shift in the balance between program spending and debt charges.
  - Program spending fell slightly overall, rising from 35.6 per cent of GDP to 38.4 per cent in the peak year of 1983 and then falling to 33.5 per cent.

Chart 1
The Structure of Direct Government Spending
National Accounts Basis -- per cent of GDP

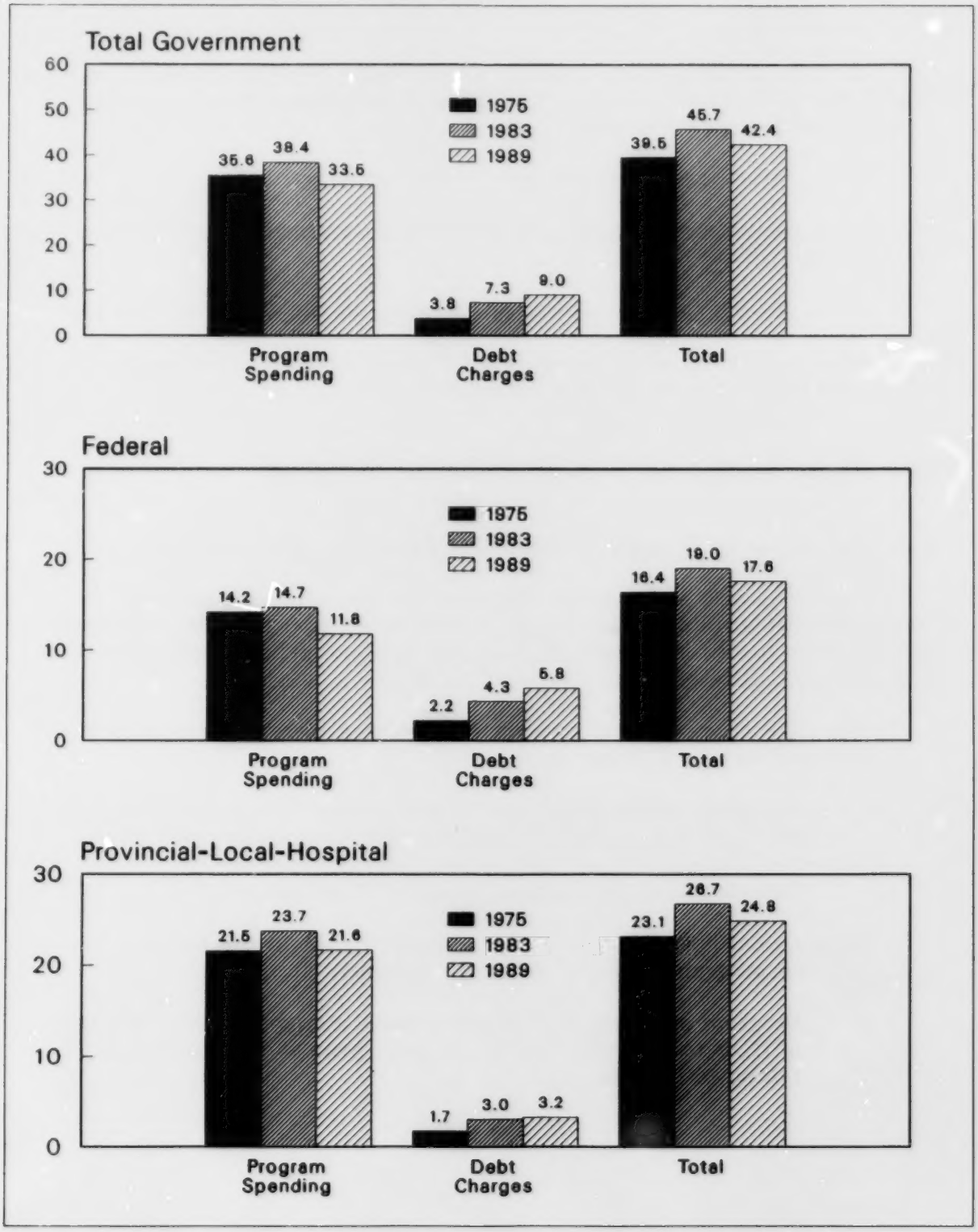
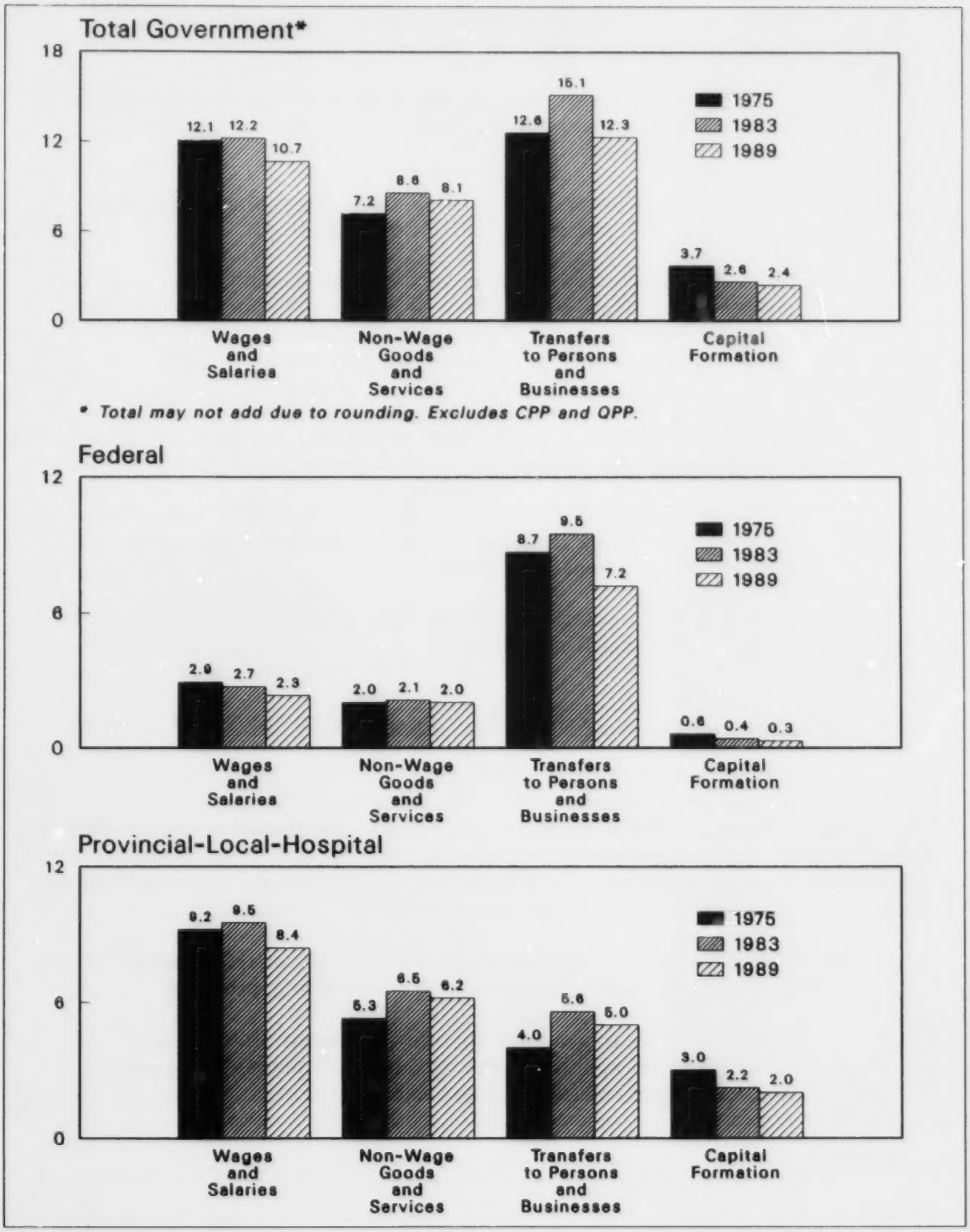


Chart 2
The Structure of Direct Program Spending (National Accounts Basis)
Per cent of GDP



- However, debt charges increased continuously and more than doubled, from 3.8 per cent of GDP to 9.0 per cent.

    - This shift was very pronounced at the federal level, where debt charges shot up from 2.2 per cent of GDP to 5.8 per cent.

    - From a lower base, PLH debt charges almost doubled, from 1.7 per cent of GDP to 3.2 per cent.

- As a counterpart to the greater increase in debt charges at the federal level, the fall in direct program spending at the federal level accounted for all of the overall fall and PLH direct program spending was virtually unchanged.

- The overall reduction in program spending was accounted for primarily by falls in wage and salary payments (1.4 percentage points) and capital formation (1.3 percentage points) relative to GDP.

    - Falls relative to GDP in these areas at the PLH level were offset by increases in other spending categories, including transfers to persons and businesses.

    - However, falls relative to GDP were recorded in almost every category of federal spending.

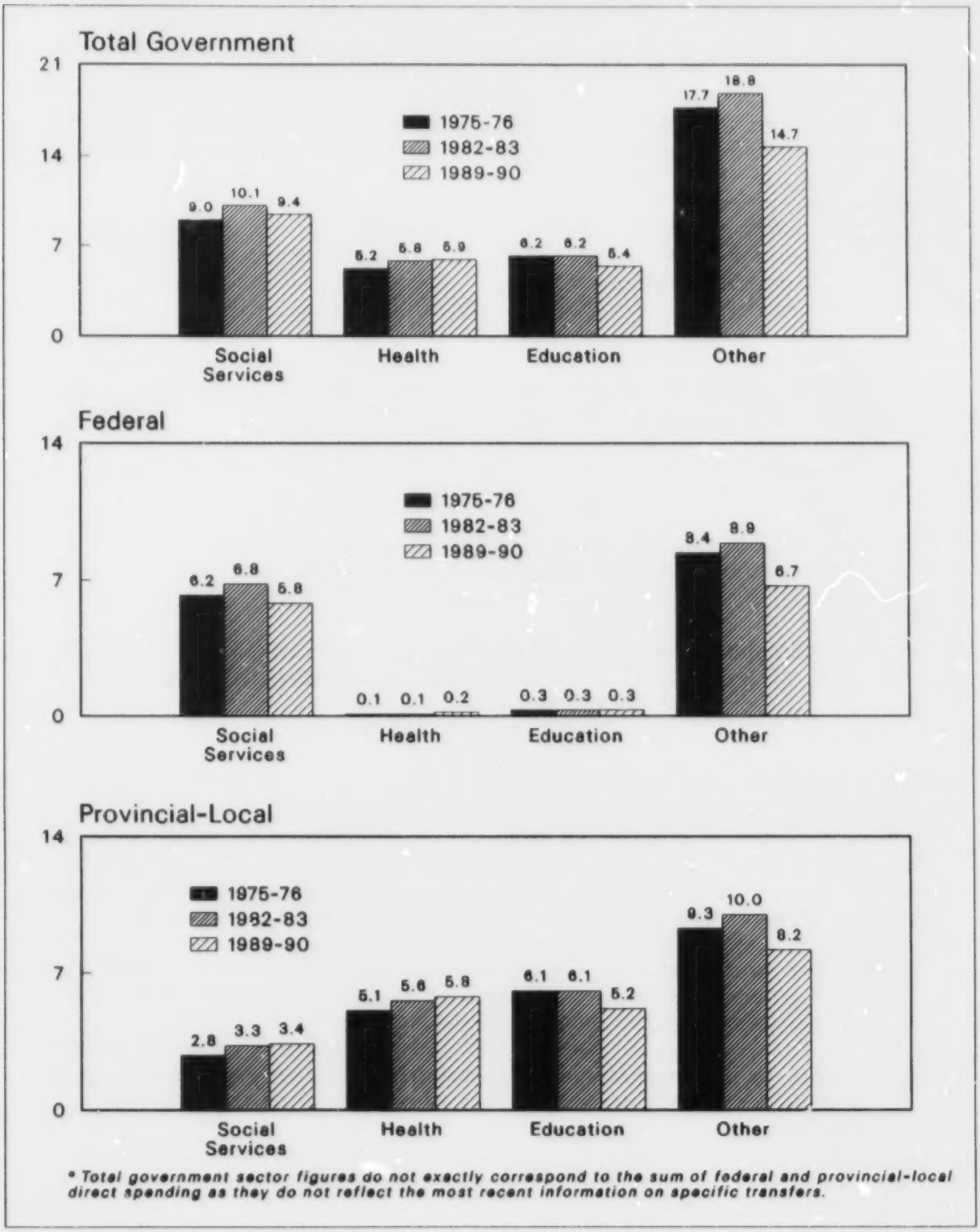
2.2 Program Structure of Spending between 1975-76 and 1989-90

Chart 3 illustrates developments in the program structure of federal direct and provincial-local (PL) spending on a Financial Management System (FMS), financial-year basis. It should be noted that federal direct spending excludes transfers to the PL sector (to avoid double counting) and that aggregate PL trends may not reflect developments in each province. The principal messages are that:

- The combined health, social services and education (HSE) sector represents a large and growing source of spending pressure.

    - Relative to total program spending between 1975-76 and 1989-90, HSE spending rose by almost 5 percentage points, from 53.7 per cent to 58.4 per cent.

Chart 3
The Structure of Direct Program Spending*
FMS Basis -- per cent of GDP



** Total government sector figures do not exactly correspond to the sum of federal and provincial-local direct spending as they do not reflect the most recent information on specific transfers.*

- Relative to GDP (which grew somewhat faster than total program spending) between 1975-76 and 1989-90, HSE spending rose more modestly, from 20.4 per cent to 20.7 per cent.

- The slight increase in the GDP share of total HSE spending was attributable entirely to the PL sector, since the GDP share declined slightly at the federal level.

  - More than two thirds of HSE spending took place in the PL sector through the late 1970s and 1980s, where it consistently accounted for more than 60 per cent of program spending.

  - The much smaller amount of HSE spending by the federal government nevertheless consumed a substantial share of federal direct program spending throughout, at around 45 per cent.

- The slight increase in the GDP share of total HSE spending was concentrated entirely on medical and social services spending.

  - Medical spending increased from 1.4 to 1.9 per cent of GDP and social services spending increased from 9.0 to 9.4 per cent of GDP.

  - Hospital spending remained virtually unchanged, at 3.5 per cent of GDP, and education spending fell from 6.2 to 5.4 per cent of GDP.

2.3 Principal Cost Drivers

The study explains the trends in government spending identified above as a mixture of economic, demographic, program-specific and policy factors. Most factors identified resulted in an increase in the GDP share of spending, for example:

- Growth in debt charges occurred principally because of a succession of large government deficits, particularly at the federal level and particularly since 1981.

- Growth in health care spending primarily reflected growing per capita demand for medical services. Factors underpinning this increase include:

- Faster growth in physician and specialist numbers than in the total population.

- New medical technologies, which added new treatments.

- The aging of the Canadian population.

- Growth in numbers of services per physician, within a system that pays physicians on a fee-for-service basis.

- Growth in social services spending primarily reflected an increase in the proportion of the population in receipt of social service benefits.

  - The aging of the population resulted in increased demand for the Old Age Pension and related benefits at the federal level (although a fall in pensions relative to other incomes masked the impact of growth in recipients on the GDP share of pension payments).

  - The persistence of high unemployment rates following the 1981-1982 recession resulted in increased demand for unemployment insurance benefits at the federal level and general assistance benefits at the PL level.

  - A broadening of the coverage of workers' compensation programs at the PL level.

Some factors resulted in a reduction in the GDP share of spending, for example:

- Some governments developed fiscal management systems around the mid-1980s to contain costs; the effectiveness of these is evident in a number of areas, such as operating costs (including wages).

- The overall decline in the GDP share of education spending reflected a decline in the proportion of the population in the 5-24 year age group.

Charts 4 and 5 illustrate developments in some of the key cost drivers in the HSE sector between 1975-76 and 1989-90.

Chart 4
Accounting for Growth in Health Spending

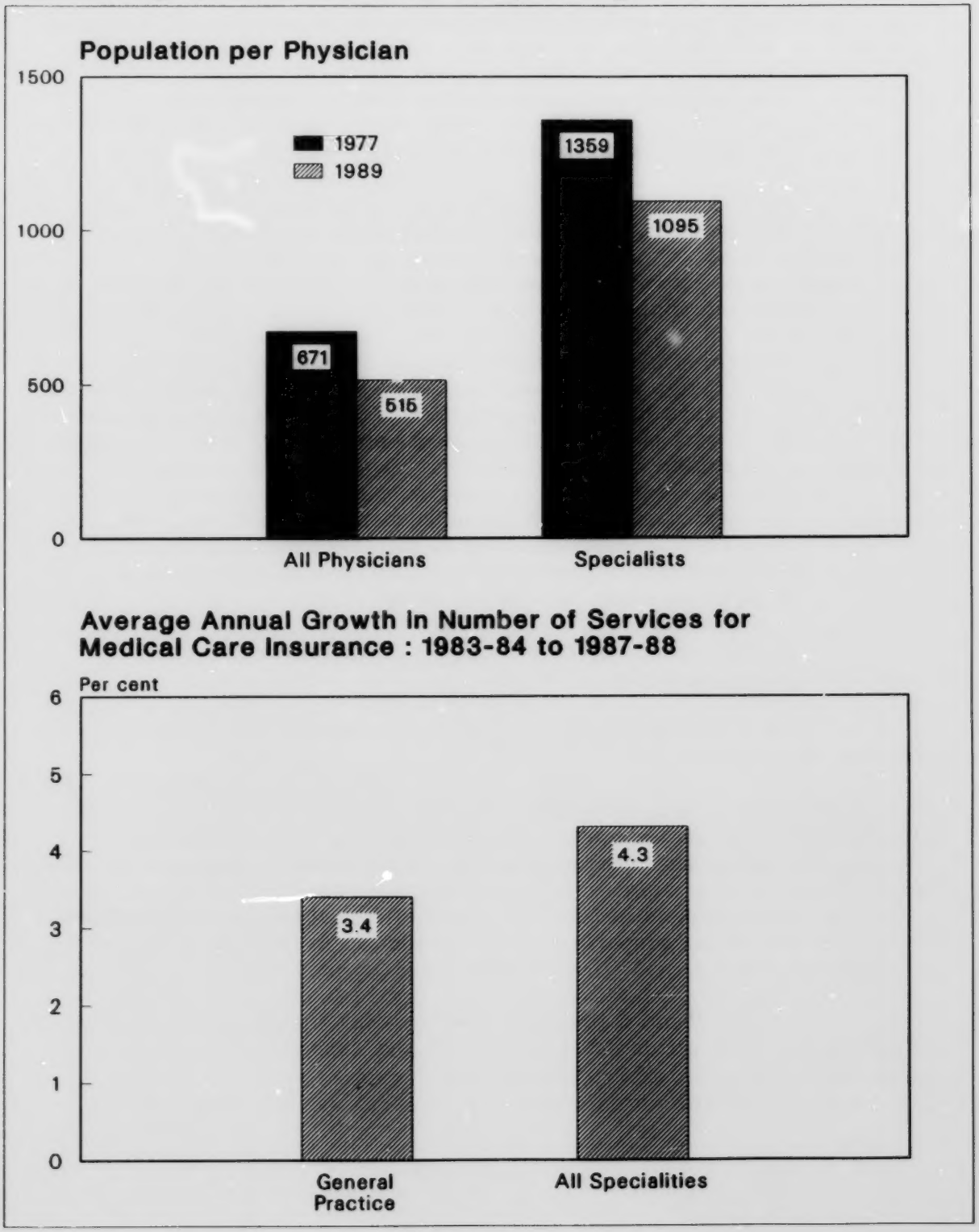
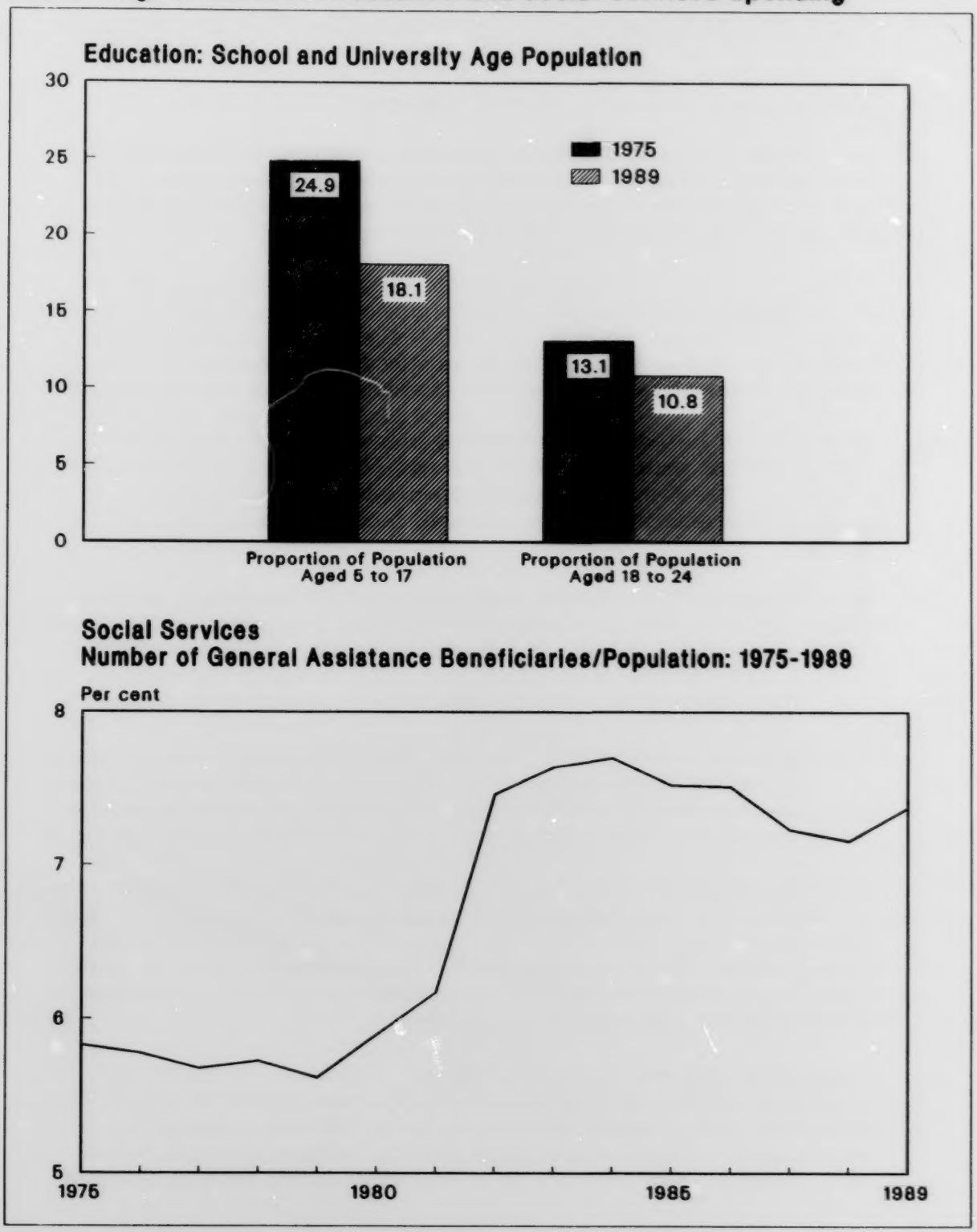


Chart 5
Accounting for Growth in Education and Social Services Spending



3.0 Pressures on Government Spending in the 1990s and Beyond

3.1 Discussion of Principal Cost Pressures

This section of the study presents a qualitative discussion on likely cost pressures in the 1990s and beyond. It identifies general cost pressures having an impact on several areas of spending and specific cost pressures having an impact on HSE and other spending.

3.1.1 General Pressures

Some factors will lead to lower spending indirectly by motivating governments to cut costs and increase efficiency. These include:

- **Pressure to be competitive in an increasingly integrated international economic environment.** This will mean that taxation systems and public sector demands on resources more onerous than international 'norms' will become more difficult to sustain.

- **Increasing public concern with the overall level of taxation.** This will affect the political trade-off between increasing taxation and reducing spending as a means of addressing the public debt problem.

Other factors will lead directly to lower spending, including:

- **Falling inflation pressures in Canada.** The combination of widely expected reductions in international and domestic inflationary pressures will help lower the growth of nominal spending in several areas, especially indexed programs.

- **Falling nominal interest rate pressures in Canada.** Lower rates of inflation will bring about lower nominal interest rates, which will ease the nominal cost of servicing debt. (Heavy borrowing by the former Soviet Union and Eastern Europe, combined with continuing large fiscal deficits in the USA, would impede a significant decline in world-wide real interest rates).

- **Strengthening economic growth in Canada.** The impact of structural reforms in most industrialised countries during the 1980s, combined with a cyclical rebound from the 1990-1991 recession, should lead to higher employment growth, reduced unemployment and, therefore, less pressure on a number of social services programs.

(However, the expected persistence of high unemployment rates through the early 1990s may delay some of the fiscal benefits.)

Factors leading to higher spending include:

- **Pressure to be internationally competitive.** As noted above, this will lead overall to downward pressures on taxation and spending. However, it will produce upward spending pressures in some areas, including:
  - Demands for better public infrastructure, which has aged and deteriorated following cutbacks since the mid-1970s. At both levels of government, the ratio of gross investment to GDP would need to increase by about 25 per cent just to maintain current capital stock to GDP ratios, let alone provide for a return to historical levels.
  - Demands for more flexible labour markets. Governments will be pressured to enhance labour market adjustment programs and fund increased demands on the school and university system.
- **High levels of immigration intended through the 1990s.** This will put pressure on immigration-related spending programs in the short term. (Immigration is generally thought to result in lower spending relative to GDP over the medium term because it brings about higher economic growth.)

Some of these pressures will affect revenues as well as spending. For example, lower inflation and lower nominal interest rates will affect revenue collections. The overall impact of these pressures on fiscal deficits is beyond the scope of the study.

3.1.2 Specific Pressures on HSE Spending

As noted above, HSE spending accounts for over half of total program spending (higher than this at the PL level) and has been taking up an increasing share of program spending since the mid-1970s. Three types of pressure are distinguished:

- Pressure which arises from **changes in demand for existing programs.** Two separate influences on demand may be identified:

- Influences reflecting autonomous **demographic developments**, including population growth and changes in the age structure of the population. For example:

  - The relative aging of the population will continue to increase, as a proportion of the population, the demand for hospital and medical services, eligibility for Old Age Security and aged care facilities.

  - The relative fall in the school and university-age population will reduce, as a proportion of the population, school and university enrolments.

- Influences reflecting **socio-economic developments** independent of demographic developments. For example:

  - Increases are expected in numbers of single mothers, young offenders and child abuse cases. This will increase the demand for programs in these areas.

  - High levels of unemployment in the aftermath of economic restructuring and the 1990-1991 recession will put pressure on Unemployment Insurance, CAP programs and labour market adjustment programs.

- Pressure which arises from **changes in unit costs of existing programs** (cost per recipient or per unit of service). For example:

  - The unit cost of medical and hospital services will likely be raised by the proliferation of high cost high technology treatments, the need to compete with US remuneration and continued rapid increases in the cost of drugs.

- Pressures to **expand the coverage** of programs. For example:

  - In the social services area, there is pressure to extend workers' compensation benefits to cover stress-related diseases, to improve child care infrastructure and to address concerns of aboriginals.

The study's qualitative assessment of the relative contributions of these factors to future costs through the 1990s is that demographic developments will not exert as much pressure as other developments. Indeed, demographic developments should contribute to lower costs in the

education area. These relative contributions to future costs are examined further via a series of mechanical extrapolations in Section 3.2.

3.1.3 Other Specific Pressures

Other spending pressures highlighted by the study include:

- Pressure to make up the shortfall in unfunded government employee pension liabilities.
- Pressure to address concerns about a number of environmental issues, including acid rain and pollution in the Great Lakes.
- Pressure on the justice system related to:
  - An expected increase in criminality, which will affect the costs of the court system, of penitentiaries and of policing.
  - An expected increase in Charter of Rights challenges.

3.2 Mechanical Extrapolations of the Cost of HSE Programs

The study supplements the qualitative examination of spending pressures summarised above by extrapolating the cost pressures facing governments in the HSE program area in the 1990s and out to the year 2025. An extended time period was used because the major demographic changes of interest in this study are typically slow to unfold. Naturally, any extrapolation of cost pressures so far into the future must be interpreted with caution.

The methodology underpinning this analysis involves:

- A standard set of assumptions about major economic and demographic parameters.
- A series of four mechanical extrapolations, each involving a progressive stepping-up of non-demographic cost pressures on HSE programs.
  - The purpose of this was to illustrate potential pressures on government spending arising from socio-economic developments and unit cost escalation.

- Sensitivity tests, involving shocks to key economic assumptions, to illustrate the influence of economic parameters on government spending.

3.2.1 The Economic and Demographic Assumptions

The main economic and demographic assumptions used in the extrapolations are:

- The outlook from 1992 to 1996 is based on Federal Department of Finance projections. Thereafter, a consistent set of assumptions is adopted with respect to the main economic variables.

- The population growth rate slows down throughout the extrapolation period and the proportion aged over 65 years progressively increases, in line with Statistics Canada's demographic Scenario 3, modified to reflect recent policy announcements on immigration.

  - The fertility rate is assumed to be 1.67 per cent, immigration is assumed to average 250,000 per annum between 1992 and 1995, and remain a constant proportion of the population thereafter.

- Labour productivity and real wages grow at a fixed rate of 1 per cent per annum from 1995.

- Together, these assumptions lead to progressive declines in the employment and output growth rates.

- The inflation rate stabilises at the Federal Government and Bank of Canada's 1995 target of 2 per cent throughout the remainder of the extrapolation period.

3.2.2 The Four Extrapolations

The four extrapolations were built up by increasing progressively the real per capita growth rates of the cost components of HSE programs. Since almost all federal programs are regulated by statutory formulae, real per capita costs are assumed to remain unchanged in the federal sphere. Hence, the increases in real per capita cost growth were confined to the PL sector.

The assumptions underpinning each extrapolation are as follows:

- **Extrapolation 1** assumes real per capita growth in all cost components is phased-down to zero by 2005 and maintained at zero thereafter.

- **Extrapolation 2** assumes real per capita growth in all non-wage cost components is in line with historical experience, while wage-related costs grow in line with Extrapolation 1.

- **Extrapolation 3** assumes real per capita growth in wage-related costs is stepped-up to the growth in productivity, with physicians and other health professionals receiving 1 per cent on top of this.

- **Extrapolation 4** assumes real per capita growth in all cost components is in line with historical experience.

Table 1 provides more detail on these assumptions for each cost component. Chart 6 illustrates the growth of total HSE spending in the PL sector under the four extrapolations (as noted above, federal spending is assumed to be the same under all extrapolations) and Chart 7 shows the extrapolations for each of the three categories of HSE spending in the PL sector.

In the following summary of the results, only Extrapolations 1 and 4 are considered in any detail. The main points to note regarding Extrapolation 1 are:

- Total HSE spending falls from the 1990 base of 20 per cent of GDP to 16.6 per cent through the extrapolation period, with PL spending falling from 14.7 per cent to 12.2 per cent. A reduction in PL education spending from 5.3 per cent of GDP to 3.2 per cent accounts for most of the overall reduction.

- Because growth in real per capita costs is phased-down to zero by 2005, this trend is explained almost entirely by demographic factors. Governments might take some comfort from this result, since it suggests that demographic factors alone will not apply significant upward pressure to the GDP share of government spending over the extrapolation period.

- There is a marked contrast between the assumption in the extrapolation period that real per capita cost growth is phased-down to zero by 2005 and experience since the mid-1970s of substantial growth, particularly in the health sector.

Table 1
Assumptions Underlying Extrapolations of PL HSE Spending

Cost Component	Average Growth of Real Per Capita Spending (per cent per annum)					
	76-77 to 88-89	84-85 to 88-89	Ext.1[1]	Ext.2	Ext.3	Ext.4
Hospitals						
• Wages & Benefits	2.6	1.2	2.0→0	2.0→0[1]	prod[2]	2.0
• Med. & Surg. Supplies	6.7	11.6	7.0→0	7.0	7.0	7.0
• Drugs	6.8	15.3	7.0→0	7.0	7.0	7.0
• Other	3.9	-0.4	2.0→0	2.0	2.0	2.0
	77-87	82-87				
Medical Care						
• Physicians	5.1	6.5	5.0→0	5.0→0[1]	prod[2]+1	5.0
• Other Professionals	6.7	2.2	6.5→0	6.5→0	prod[2]+1	6.5
• Drugs	11.7	11.6	10.0→0	10.0	10.0	10.0
	76-77 to 86-87	81-82 to 86-87				
Elementary & Secondary Education						
• Teachers' Salaries	1.0	1.5	1.0→0	1.0→0[1]	prod[2]	1.0
• Capital Spending	-0.1	2.3	3.0→0	3.0	3.0	3.0
• Other Op Spending	1.7	1.3	1.5→0	1.5	1.5	1.5
Postsecondary Education						
• Wages & Salaries	1.9	1.8	2.0→0	2.0→0[1]	prod[2]	2.0
• Capital Spending	3.1	3.1	3.0→0	3.0	3.0	3.0
• Scholarships, etc	4.0	8.0	7.0→0	7.0	7.0	7.0
	75-76 to 89-90	84-85 to 89-90				
Social Services	3.7	2.9	3.0→0	3.0	3.0	3.0

1. Real per capita growth phased-down to zero by 2005.
2. Rate of growth of labour productivity.

Sources: FMS, Statistics Canada, Health and Welfare Canada.

Chart 6
Extrapolations of HSE Spending, P-L Sector

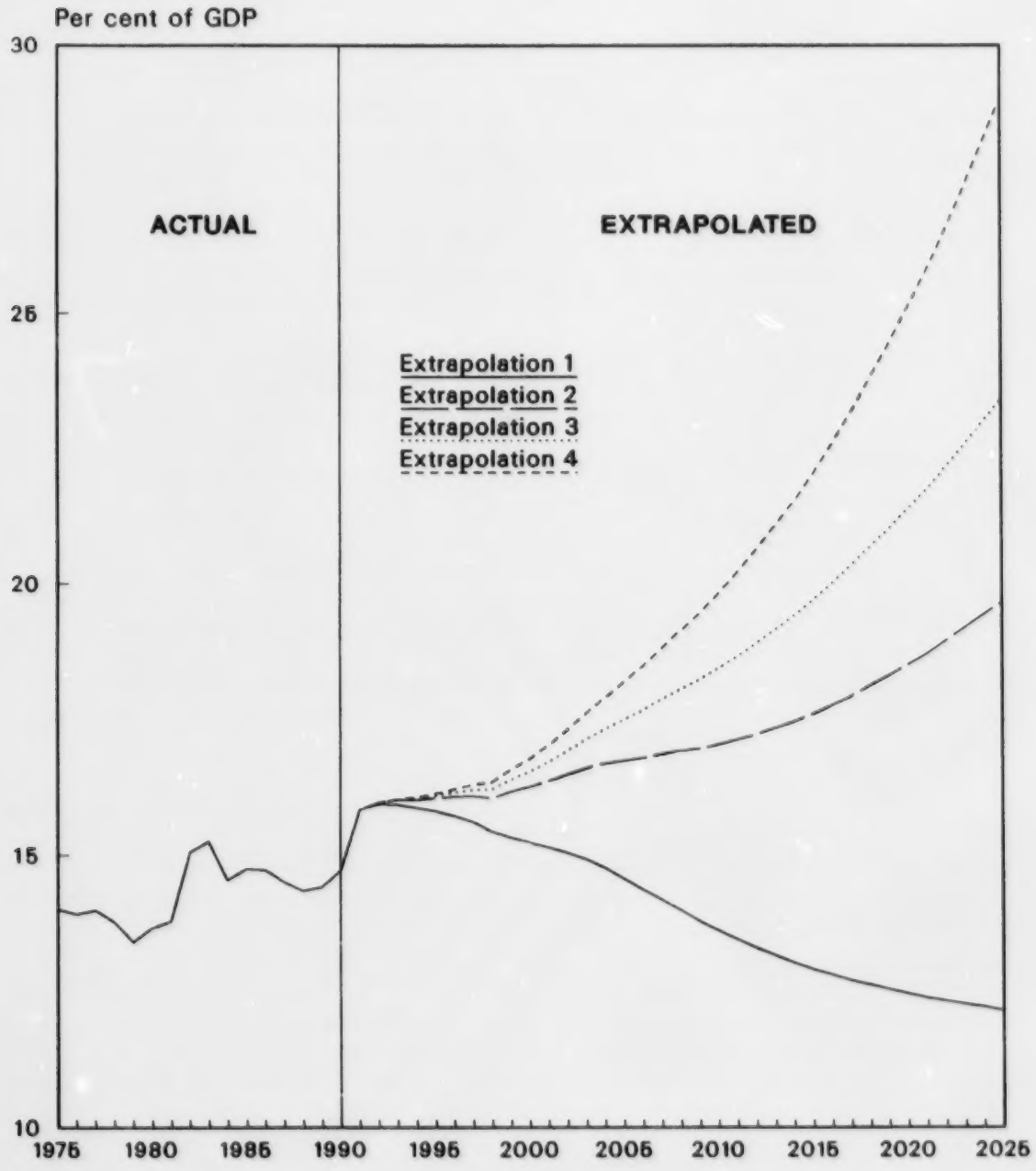
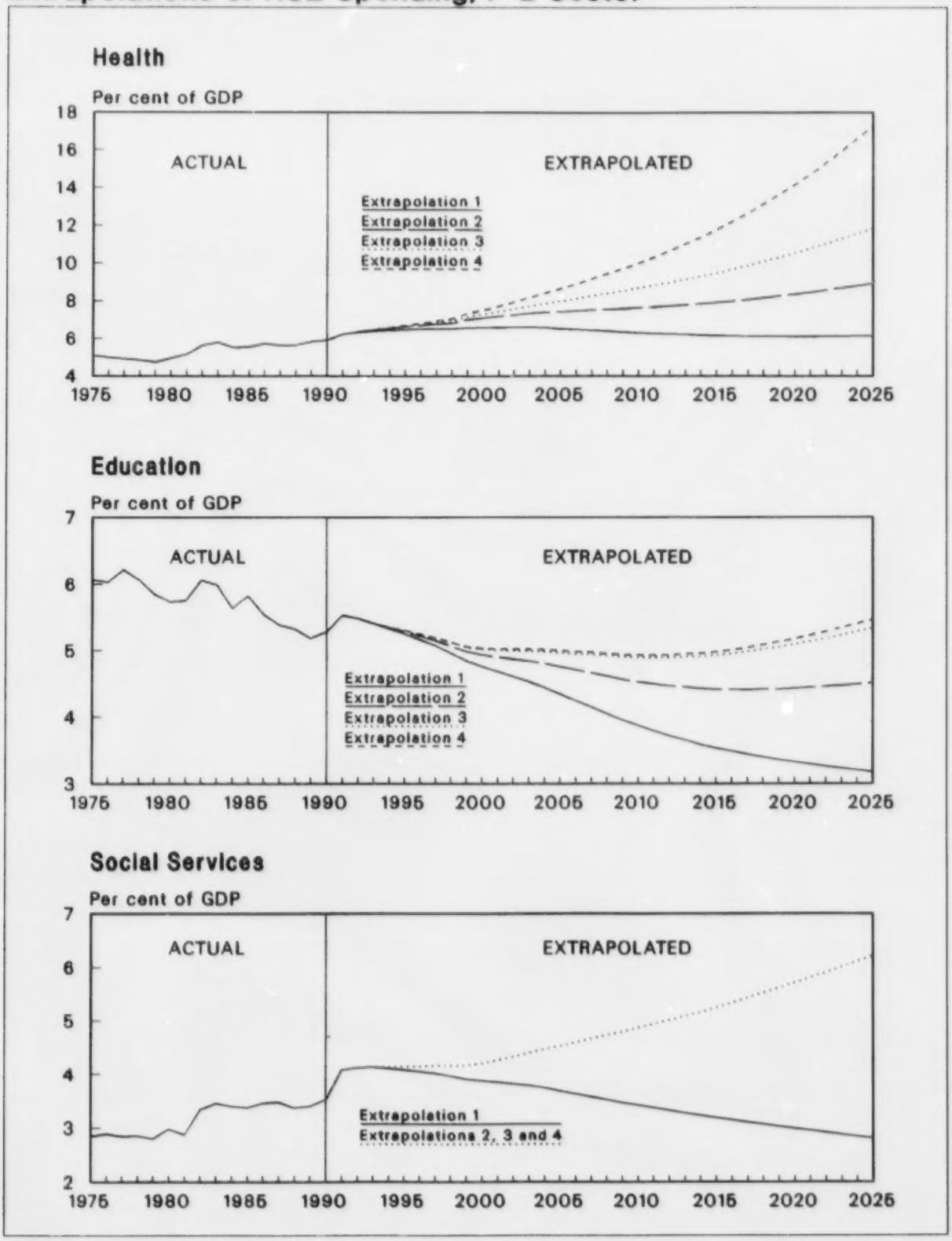


Chart 7
Extrapolations of HSE Spending, P-L Sector



- Clearly, governments would need to make considerable changes to recent policy directions to achieve this outcome. (This is even more evident under Extrapolation 4 below.)

Important points regarding Extrapolation 4 are:

- Total HSE spending increases from the 1990 base of 20 per cent of GDP to 33.4 per cent by the end of the extrapolation period, more than double the Extrapolation 1 level.

- Given the assumption regarding federal HSE per capita cost growth (i.e., unchanged real level throughout), all of this higher spending takes place at the PL level.

- The clear message is that governments will be in very great fiscal difficulty in the foreseeable future if they allow past trends in health and social services cost growth to continue.

In all extrapolations:

- Most of the spending pressure occurs in the last half of the extrapolation period (ie, post 2005).

- Spending pressures are greatest in the health sector.

- Spending pressures decline or, at worst, stabilize, in the education sector.

3.2.3 The Sensitivity Tests

Extrapolations which do not include any variation in the set of underlying economic assumptions cannot illustrate the extent to which broad economic variables might influence future trends in government spending. Yet general economic factors, particularly real growth, inflation and interest rates can have a marked impact.

To illustrate the potential importance of economic variables in the future, the study includes the following sensitivity tests:

- Shocks of sustained 1 percentage point increases in wages and interest rates, each from a 1990 base.

- The tests only allow for the direct effects of the wage shock on the public sector wages bill and the interest rate shock on debt charges.

- By year 3, the combined impact of these shocks raises government spending by around 0.9 per cent of GDP.

- Chart 8 illustrates the impact of these shocks on the spending of both levels of government.

- An increase in annual productivity growth from the assumed 1 per cent to 1.5 per cent.

  - Assuming government spending is unchanged by this increase, ratios of HSE spending to GDP would be roughly 16 per cent lower by the end of the extrapolation period.

    - For example, the GDP share of HSE spending by 2025 in Extrapolation 4 would have been 28.1 per cent instead of 33.4 per cent.

  - Such an improvement would be insufficient to overcome the concern about sustainability raised by Extrapolation 4.

Clearly, departures from the economic assumptions above could have a major impact on the extrapolation results. That said, it is evident from this sensitivity analysis that the concern about sustainability is not merely a result of the particular assumptions chosen.

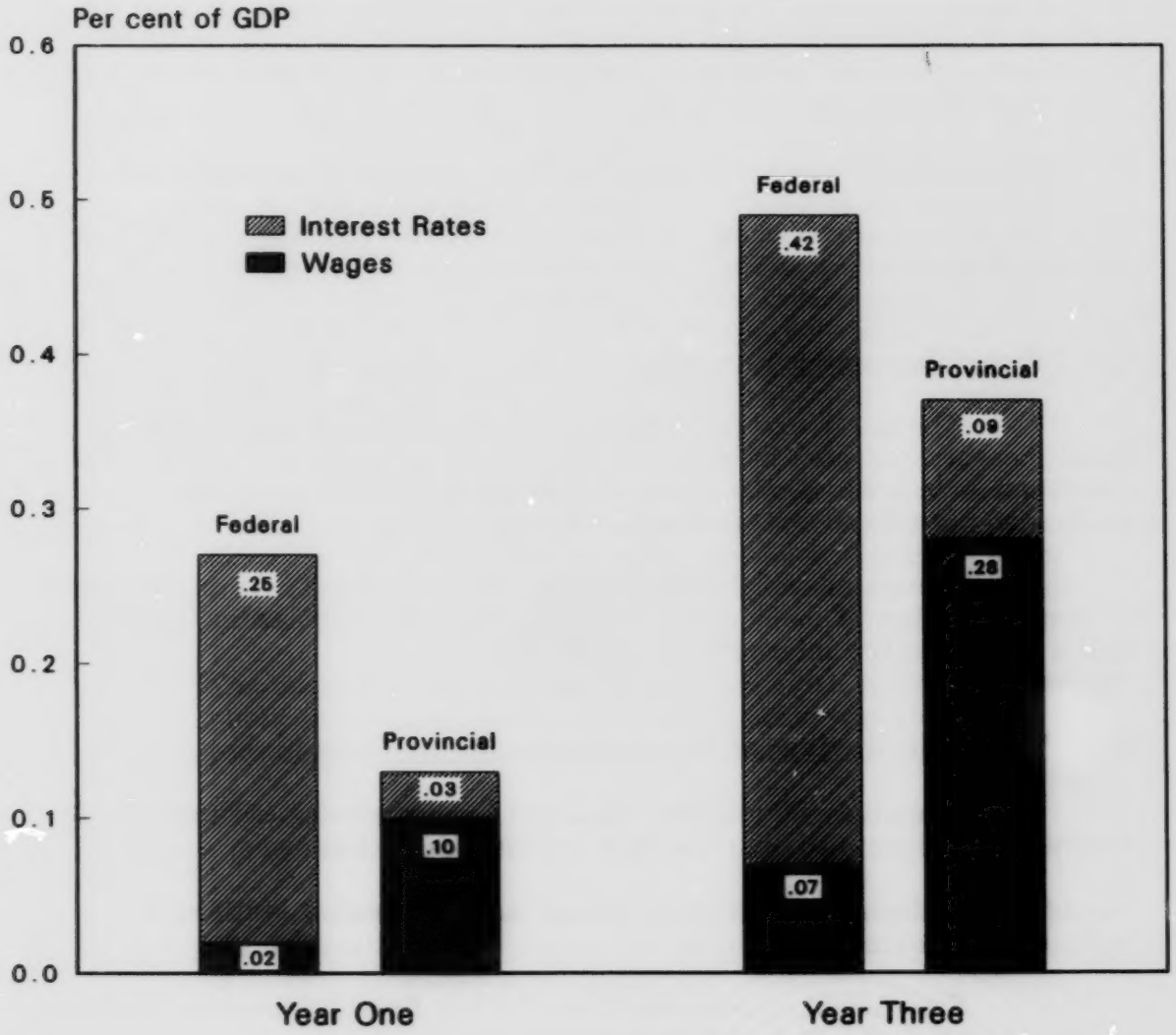
3.3 Conclusion

Major conclusions drawn from this analysis of future cost pressures are:

- The increasing pressure to be internationally competitive will make it difficult to sustain policy arrangements which place the domestic economy on a 'tilted playing field'. Governments will come under pressure to ensure their taxation policies do not discriminate against domestic economic activity and that public sector activities are managed efficiently.

- The positive international and domestic outlook for inflation and growth in the 1990s is 'good news' which may help mitigate other spending pressures.

Chart 8
Sensitivity Analysis
One Percentage Point Increase in Wage Growth and All Interest Rates



- Demographic developments, such as the relative aging of Canada's population that will occur over the next 30 years or so, may not put as much pressure on future costs as is often expected.

- However, a continuation of past real per capita growth rates of costs in the HSE area would lead to a ballooning of spending pressures within the next generation and governments would be confronted with very difficult fiscal decisions.

- Past cutbacks in capital spending have resulted in an aging and a deterioration in public infrastructure. To the extent that this impedes improvements in competitiveness and efficiency, governments will be under pressure to increase their capital spending.

4.0 Fiscal Restraint Strategies

The study examined fiscal restraint strategies and individual fiscal measures adopted by governments, inside and outside Canada. The examination includes a case study of five selected OECD countries confronted with fiscal imbalances in the early 1980s.

The results of this examination are presented here in two parts: a thematic review of major fiscal restraint strategies adopted in Canada and a report on the international experience.

4.1 Thematic Review of Major Strategies in Canada

The study identifies a number of major strategies developed by various governments to address fiscal imbalances, including:

- The development of a fiscal management framework, with such features as:

  - Firm medium-term objectives for key fiscal parameters, such as total spending and budget balance.

  - Decision making machinery (such as special committees of ministers) which aims for a broad consensus among ministers on overall goals and particular measures; this forces all departments of government, particularly spending departments, to cooperate with the government's fiscal objectives rather than work against them.

- The introduction of measures believed to reduce operating costs and increase the efficiency of service delivery, such as:

  - Restructuring (and sometimes reducing the number) of departments of government to achieve economies of scale and/or more streamlined operating units, so as to reduce costs.

  - The promulgation of a new management ethos within government, which devolves greater authority over resources to individual agencies and managers to achieve results within specified budget limits.

  - Measures to restrain the growth of public sector wages. (Wages are the largest single component of operating costs at the provincial level.) For example, some jurisdictions have established bodies to develop remuneration standards for all public employees (from cabinet ministers down) and make recommendations to governments.

  - Putting various government activities on a more commercial footing, on the premise that this would provide more effective discipline on costs. For example, imposing user charges for services and contracting out services provided by the private sector.

  - The outer limit of this has been to privatise entire 'commercial' public enterprises, where the market-place was thought to provide more effective discipline on costs.

- Generally, there has been less emphasis on specific measures to reduce program costs by cutting or curtailing programs, however:

  - In the education area, demographic factors have led to reduced enrolments in recent years. Consequently, some rationalization of human resources took place.

  - In the health area, cost control measures include global caps on billing by physicians and tighter control on hospital budgets.

4.2 Summary of International Experience

The study examined general trends in OECD countries, and conducted a more detailed analysis of five countries whose experience was felt to be of particular interest to Canada, to see what could be learned

about future cost pressures and spending control options from an international perspective. The five countries were the United States, the United Kingdom, Germany, Australia and New Zealand.

Major cost drivers in the early 1980s in the five countries singled out for detailed review have a familiar ring:

- Program enrichment and extension in the social services area.
- Government consumption spending, particularly wage costs.
- Debt charges.
- The impact of increases in the old-age dependency ratio on health care costs in countries with public health care systems.

Major cost control measures introduced included:

- Medium-term targets for deficit and spending reduction.
  - This approach has been used successfully in Germany and Australia.
  - Deficit target legislation was not effective in the US and real spending caps, allowing for higher than expected inflation, have recently been introduced.
- Measures to enhance the efficiency of the economy in general and the public sector in particular.
  - The United Kingdom and New Zealand sought to increase efficiency by privatising several commercially-oriented government agencies.
- Increased targeting of eligible recipients of program benefits.
  - This approach was used extensively in the United Kingdom, Germany, Australia and New Zealand.

4.3 Conclusions and Lessons for Canada

The main messages from the study's review of approaches taken by governments inside and outside Canada to restraining spending are:

- The development of an overall fiscal management strategy, involving the setting of medium-term fiscal objectives and the establishment of appropriate decision making machinery is a key to success.

- Governments have sought to achieve savings by taking measures intended to increase the efficiency of service delivery. Measures taken include restructuring departmental functions, greater devolution of management responsibility and greater reliance on market-place cost disciplines such as user charges and privatisation of commercial public sector enterprises.

- Social security and other income maintenance programs have put the greatest upward pressure on spending in several jurisdictions. These pressures have often been reduced substantially by more rigorous targeting of eligible recipients.

- Not surprisingly, the international survey did not bring to light any 'painless' method of reducing spending previously unknown in Canada.

5.0 Summary of the Key Messages

While the study was broad ranging, covering an examination of past and future cost pressures on both levels of government and examining options to deal with these pressures drawn from experience in Canada and on the international scene, it can be distilled into a fairly small number of important messages. These are:

- The major developments in government spending since the mid-1970s, expressed as a proportion of GDP, were:

  - A sharp escalation in debt charges, a legacy of large deficits in the early 1980s, particularly at the federal level but importantly at the PLH level as well.

  - A reduction in program spending, again at the federal level and especially since the mid-1980s.

- The principal components of the reduction in program spending were wages and salaries and capital spending.

- Spending in the HSE area has dominated program spending to an increasing degree since the mid-1970s, particularly at the PL level, reflecting:
  - The development of new medical treatments, based on new technologies, faster growth in physician numbers than in the total population and escalating drug costs.
  - The persistence of high unemployment following the 1981-1982 recession, which increased the demand for unemployment insurance benefits and for general assistance benefits.
  - The aging of the Canadian population, which increased the demand for medical services and for social service benefits.
- Major factors likely to influence costs in the 1990s and beyond are:
  - Pressure to become more competitive, arising from the increasing globalization of national economies. This will lead to pressure to set taxes at competitive levels and to ensure public sector activities are managed efficiently.
    - Competitiveness pressure may also lead to pressure to spend more to refurbish public infrastructure and to enhance labour market adjustment programs.
  - The positive international outlook for inflation and growth. This will lead to downward pressure on spending.
  - Pressure to maintain past rates of increase in real costs of HSE programs. This will lead to very strong upward pressure on spending.
- An examination of the recent experience of governments inside and outside Canada indicates the following approach has been widely used to address spending pressures:
  - The development of an overall fiscal management strategy, involving the announcement and/or legislation of medium-term fiscal goals and the establishment of appropriate decision making machinery.
  - A concentration of restraint measures on operating and capital budgets.

- The introduction of measures intended to reduce operating costs by increasing the efficiency of service delivery, ranging from restructuring of government activities, to the introduction of user charges, to privatizing commercial public enterprises.

Federal-Provincial Study on the Cost of Government and Expenditure Management

May 1992

Department of Finance Canada
Ministère des Finances Canada

PREFACE

The research presented in this document was undertaken by a joint working group of federal and provincial officials at the request of Ministers of Finance and Treasurers.

The work was essentially fact-finding in nature and designed to shed light on a number of key issues in the area of government spending. As such, the analysis and findings contained herein should be seen as those of the working group and should not be construed as representing the views and/or position of governments or Ministers of Finance and Treasurers. And, in fact, it should not be assumed that there was unanimous agreement of the working group in respect of every finding and conclusion in the report.

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1.0 Introduction

This document presents the background work carried out jointly by federal and provincial officials in relation to the Cost of Government and Expenditure Management Study mandated by federal and provincial Finance Ministers and Treasurers in January 1991.

1.1 Motivation for the Study

The Finance Ministers and Treasurers' decision to mandate this study was motivated by a number of economic and fiscal considerations. At the top of the list was the broad recognition that the large deficits and growing stocks of debt currently experienced in most jurisdictions were a problem that needed to be addressed urgently. It was felt that these large fiscal imbalances represented a threat to Canada's future standards of living and to governments' ability to deliver needed programs to citizens.

A direct consequence of the large deficits experienced throughout the 1980s was that taxes were raised in most jurisdictions. This poses a threat to competitiveness as individuals have less incentive to work and businesses to locate or expand their operations in Canada. Large fiscal imbalances also result in a significant share of domestic saving being used to finance government consumption rather than private infrastructure and an increased reliance on foreign capital.

The dynamics of deficit and debt also suggest that if the fiscal problem is not addressed rapidly, it is likely to grow and require progressively more difficult solutions in the future. In recent years, public debt charges have grown in line with governments' indebtedness and have become an increasing share of government spending. Significant reductions in debt charges can only be achieved by stopping the growth and then reducing the stock of debt; this requires applying fiscal restraint over an extended period of time.

Another motivating factor was the recognition that any sustainable solution to the fiscal problem had to start with a better control of government spending -- the fundamental cause of the problem. In the late 1970s and early 1980s, the growth rate of program spending rose in most jurisdictions under the combined influence of high inflation, the recession, and the presence of a certain degree of fiscal illusion. The increase in program spending, as well as the ensuing increase in debt charges, accounted for the lion's share of the fiscal deterioration over this period. Since the mid-1980s, the growth of program spending declined significantly as a result of an improved economic outlook and the

implementation of fiscal restraint measures. Nevertheless, the fiscal situation remains precarious in most jurisdictions. Furthermore, fiscal consolidation is likely to be increasingly difficult, given that the easiest savings have already been made in many jurisdictions and given the likelihood of significant future pressures.

Another consideration of Finance Ministers and Treasurers was the federal-provincial dimension of the fiscal problem. Fiscal pressures faced by the federal and provincial governments since the mid-1970s have resulted in an increased competition over the use of the existing tax bases. It was felt by Ministers and Treasurers that key elements to a better coordinated approach to fiscal restraint were an improved understanding of the respective spending pressures faced by each level of government.

1.2 Structure of the Study

The study comprises six sections. Section 2 examines the structure and evolution of government spending in Canada, with a particular emphasis on developments since the mid-1970s. It establishes the involvement of each level of government in major categories of spending. Furthermore, it identifies significant changes in the structure of government spending at each level of government as well as the components that contributed the most to the growth in overall government spending.

Section 3 analyzes in greater detail the specific factors underlying the growth of the main components of government spending identified in the preceding section. Given their distinctive importance, the health, education, and social services components receive particular attention.

Section 4 examines future pressures on government spending. This analysis focuses on two types of factors. First, general factors affecting several components of government spending are identified. Second, specific factors affecting one or a limited number of major components of government spending are reviewed and analyzed.

Section 5 reviews recent initiatives implemented at the federal and provincial levels in Canada to control government spending. The objective of this section is to document a number of initiatives that were particularly efficient in controlling government spending. This section also focuses on considerations related to the process of spending management and restraint.

Finally, Section 6 reviews selected international experience with cost drivers and cost-containment measures.

1.3 Caveats

Before proceeding with the analysis, a number of caveats are in order.

- Reflecting the Ministers and Treasurers' specific concerns, the study deals only with spending. No attempt is made to analyze the evolution of revenues or to draw conclusions on budget balances. Clearly, the discussion of underlying historical or future cost drivers identifies a number of factors that also affect revenues. Hence, it would be inappropriate to draw conclusions on governments' budget balances on the basis of the analysis of government spending contained in the study.

- The main data sources used in the study are the Financial Management System (FMS) and the Canadian Income and Expenditure Accounts (CIEA). The FMS is a standardized set of public accounts providing a consistent definition of spending functions across jurisdictions. The CIEA also provide consistent information across jurisdictions on governments' spending and on other major sectors of the economy. Furthermore, they allow an examination of long-term historical trends in government spending which is not possible with the FMS. However, the major drawback of the CIEA is that they do not provide a very detailed breakdown of government spending. Finally, little use was made in this study of federal and provincial public accounts data given the impossibility, in most cases, to make meaningful comparisons across jurisdictions on that basis.

- Even in a FMS framework, however, inter-provincial/territorial comparisons may present problems. Reflecting institutional differences, the content of a spending category may differ across provinces. A case in point is the social services category which encompasses numerous programs targeted at different clienteles and operating under different parameters, even if these programs are aggregated under the same general category. Other examples are the education system in Québec and debt charges in Saskatchewan, Manitoba and Ontario. Furthermore, the structure of a spending category in a jurisdiction may evolve over time. For example, the transfer of responsibility for health services from the federal government to the Northwest Territories created a structural break

which complicated the task of analyzing the evolution of this spending category.

- The focus of the analysis is often on ratios of spending to GDP. This allows for more meaningful comparisons across jurisdictions as it takes into consideration the capacity of a jurisdiction to finance a given level of spending. As such, spending-to-GDP ratios reflect the relative evolution of the two components. An increase in a ratio may reflect stable spending combined with a decline in the GDP. In some provinces, the evolution of nominal GDP is strongly influenced by the volatility of commodity prices. Also, the fact that the economic activity is not always synchronized between the jurisdictions may impact on inter-provincial comparisons of spending ratios.

- The study focuses on the major spending pressures on governments in Canada. Although some efforts went into identifying provincial differences from national patterns, this aspect of the study was not carried to its fullest extent.

- Finally, it is crucial to emphasize that the mechanical extrapolations of government spending presented in Section 4 of the study are essentially illustrative and do not represent forecasts of any spending components. They are only mechanical extrapolations reflecting assumptions about the main components of various spending categories.

2.0 The Evolution and Structure of Government Spending

The purpose of this section is to examine the evolution and structure of government spending with a particular emphasis on developments over the last 15 years. However, in order to place these recent developments in a proper perspective, the section begins with a brief review of some longer term trends in government spending and of their underlying determinants.

2.1 Setting Out the Context: A Long-term Perspective on Government Spending

The structure of government spending and its evolution over the last decade are the result of contemporary and past economic, sociological, and political developments on both the national and international scenes. An exhaustive analysis of all the factors that have contributed to the current structure of government spending would require going very far back in time. For practical reasons, this sub-section focuses on developments in the post World War II period.

Government Spending[1] in the Post World War II Period

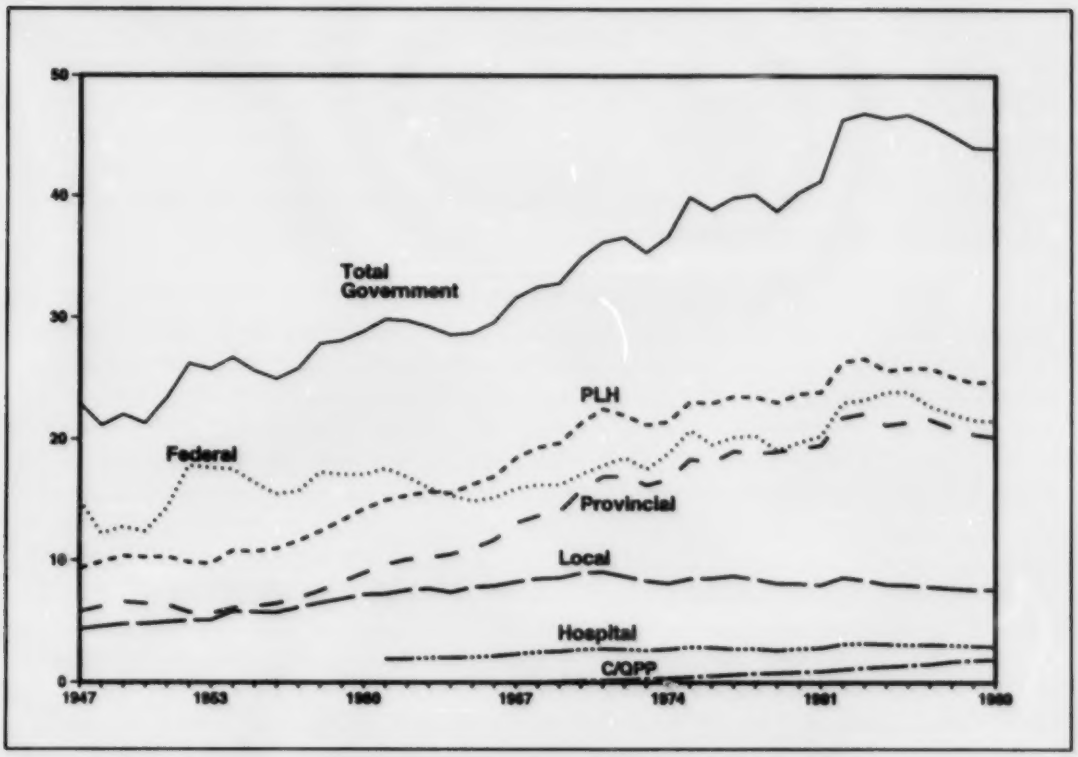
An important development in Canada and in most industrialized countries in the post World War II period has been the significant increase in the size of the government sector. From 1947 to 1989, spending by all levels of government in Canada -- federal, provincial, local, public hospitals, and Canada/Québec pensions plans -- almost doubled in relation to the size of the economy, rising from 23 to 44 per cent of GDP (Chart 1).

The contribution of each level of government to the overall growth in spending differed markedly over this period. Provincial government spending accounted for the lion's share of this increase, rising from 6 to 20 per cent of GDP. Federal government spending, the largest single component of the government sector, experienced a smaller progression over the same period with a rise from 16.5 to 22 per cent of GDP -- about half the increase recorded at the provincial level. In contrast, local government spending did not exhibit any significant upward

---

1. The following analysis is based on Canadian Income and Expenditures Accounts (CIEA) data. The CIEA provide a consistent set of information on government finances over time and across levels of government. While other public accounting systems present the same feature, only the CIEA provide estimates prior to the 1960s.

Chart 1
Spending by Level of Government – CIEA Basis
(per cent of GDP)



trend over the period and, as a result, this sector has experienced a significant decline of its relative importance. The creation of the public hospital sector and of the Canada/Québec Pension Plans in the 1960s, also contributed to increase the size of the government sector in the economy. However, these components have not exhibited a steep upward trend since their creation. It is worth noting that since 1964, the size of the consolidated provincial-local-hospital sector has exceeded the size of the federal administration.

Accounting for the Growth in Government Spending

In order to examine the main factors underlying the growth in government spending in the post World War II period, it is convenient to isolate three specific sub-periods: the 1947-1970 period; the 1970s and the first half of the 1980s; and the second half of the 1980s.

i) From World War II to the early-1970s: Broadening the Role of Governments

The quarter century that followed World War II witnessed a significant broadening of the role of governments as many new major programs were introduced. With the rapid increase in real income experienced over this period, government revenues were increasing rapidly and the strong demand for public services could be readily financed. Further, the prevailing popularity of the Keynesian doctrine validated an increased role for governments in the economy.

The 1947 to 1970 period was marked by a significant increase in total government spending on goods and services[2]. However, the increase observed at the total government level hid divergent trends at the federal (Chart 2) and provincial-local-hospital (PLH) government[3] (Chart 3) levels. Federal spending on goods and services increased dramatically in the early-1950s, largely to finance the Korean War effort. It declined thereafter reflecting the steady decline in military spending. By 1970, federal spending on goods and services as a proportion of GDP was only slightly higher than in 1947[4]. In contrast, PLH spending on goods and services as a proportion of GDP doubled over the period as a result of a growing demand for public services and particularly infrastructure. Many factors account for this development:

- The continuation of the trend toward urbanization resulted in a strong demand for transportation, sewer, and recreation services;
- The post-War baby boom created a demand for schools and hospital services, etc;
- The shift in the economic structure away from traditional activities (agriculture, forestry, etc.) toward manufacturing and the service sectors called for a better trained and educated labour force, adding further to the demand for education services; and,
- The rapid development of domestic and foreign markets called for better transportation infrastructure (roads, highways, etc.).

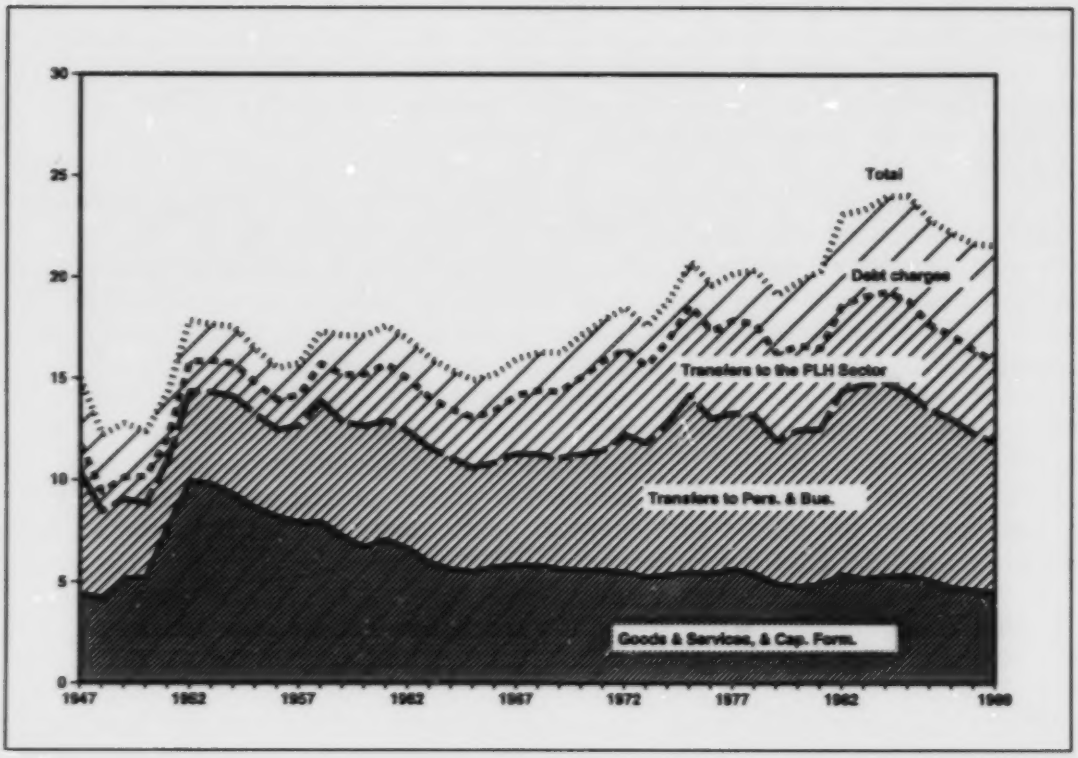
---

2. Including spending on capital formation.

3. In order to simplify the analysis, the remainder of this sub-section will deal only with the consolidated provincial-local-hospital (PLH) sector.

4. However, it is worth noting that the federal spending ratio in 1947 was large because of the impact of the World War II.

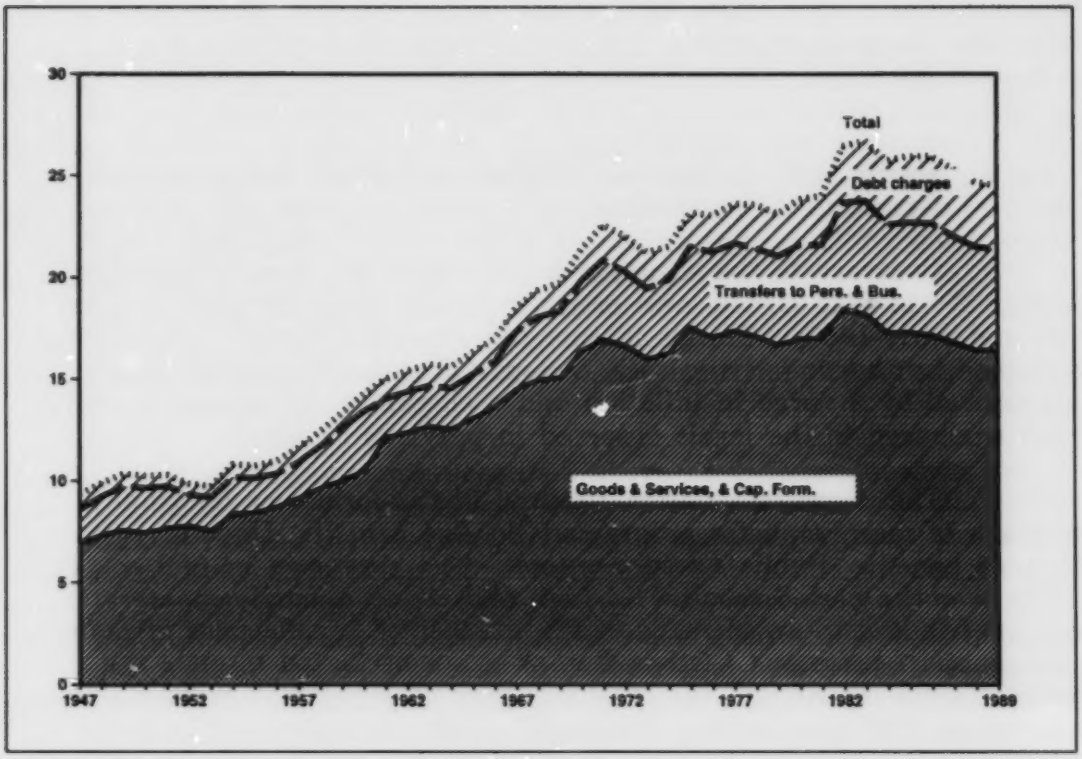
Chart 2
Composition of Federal Government Spending -- 1947 to 1989
CIEA Basis
(per cent of GDP)



This period also witnessed a significant increase in government transfers to persons. Federal transfers to persons increased significantly in the early 1950s following the enrichment of the benefits to the Unemployment Insurance program -- a responsibility shifted to the federal government through a constitutional amendment in the 1940s. As well, the federal government began Old Age Security payments in 1952.

Provincial governments also initiated a number of major social programs over this period. Hospital insurance was initiated by Saskatchewan in 1947, and this example was rapidly followed by a number

Chart 3
Composition of PLH Government Spending -- 1947 to 1989
CIEA Basis
(per cent of GDP)



of provinces. Medicare was introduced in the 1960s as well as a number of social assistance programs.

With some provinces taking the lead in initiating new programs, concerns grew over the equity and efficiency consequences of having a disparate set of social programs across provinces. Further, a low revenue raising capacity in some provinces was likely to impede the establishment of social programs comparable to those already implemented in other provinces. These factors motivated the federal and provincial governments to work together to put in place a nation-wide social infrastructure. As a result, the 1950s and the 1960s witnessed the emergence of a large number of shared-cost programs in the areas of health (Medicare and Hospital Insurance), education (Postsecondary education), and social services (Canada Assistance Plan). As well, the Equalization

program was introduced in 1957. Consequently, federal transfers to the PLH sector increased noticeably over the period.

Governments generally maintained balanced budgets in the post-War period leading to a steady or declining stock of public debt. This period was also characterized by low and stable interest rates. As a result, public debt charges remained a fairly small and stable portion of government spending.

ii) From 1970 to the mid-1980s: A Deterioration of the Economic Foundation

Contrary to the situation prevailing in the quarter century following World War II, few new major programs were introduced in the 1970s and early-1980s. Trends in spending over this period were mainly determined by the underlying socio-economic forces. The 1970s were characterized by a surge in inflation and a significant slowdown in real growth compared to the levels observed in previous decades.

The surge in inflation resulted in the formal or informal indexation of many transfer programs (Old Age benefits, Unemployment Insurance benefits, Public Assistance, etc). The slowdown in real economic activity over the period resulted in high and rising unemployment rates which contributed to an increase in the number of beneficiaries of many income support programs. Other factors also contributed to spur the growth of social spending: the gradual aging of population created upward pressures on Old Age Security programs; youth unemployment and the weakening of the family structure resulted in the creation of new programs and added pressures on existing ones.

The 1970s were also characterized by sharp movements in the prices of key commodities. The dramatic increases in the price of oil in 1973 and 1979 resulted in the creation of new programs to cushion its impact on the domestic oil industry and Canadian consumers, and to reduce Canada's dependence on oil imports.

While spending accelerated during the 1970s, growth in revenues slowed under the influence of weaker general economic conditions. Consequently, deficits increased and government debt began to accumulate more rapidly. This, combined with generally higher interest rates, led, by the second half of the 1970s, to rapid growth in public debt charges. This was particularly evident at the federal level.

iii) The Second Half of the 1980s: The Need for Fiscal Restraint

As indicated earlier, the fiscal position of the government sector deteriorated significantly in the 1970s and early-1980s. The deterioration was particularly pronounced at the federal level, although many provinces were severely affected. In response, all jurisdictions implemented fiscal restraint measures, concentrated on transfers to persons and businesses. By 1989, total government spending as a proportion of GDP had fallen by approximately 4 percentage points compared to its 1984 peak, with both the federal and PLH sectors contributing to the decline. Strong real growth contributed to this decline. Despite fiscal restraint, debt charges in 1989 remained a large and growing share of government spending, particularly at the federal level.

The Changing Role of Governments and the Structure of Government Spending

The developments described above have contributed to the current structure of government spending. The increasing role played by PLH administrations in the direct delivery of services explains the relative increase in this sector's share of spending on goods and services. In contrast, the decreasing role played by the federal administration in the direct delivery of services has been offset by its greater share of spending on transfers to persons. Transfers to persons and businesses account today for a relatively small share of PLH spending.

2.2 Structure and Evolution of Federal and Provincial-Local Government Spending

This section examines the structure and evolution of federal and provincial-local government spending over the last 15 years. The main objectives of this analysis are to establish a set of stylized facts on government spending and to identify the activities that have contributed the most to the overall growth in spending for each jurisdiction.

The following analysis is based on the two different systems of accounts noted in sub-Section 1.3. These accounts provide a different but complementary perspective on public finances in Canada. The FMS provides a consistent functional disaggregation (health, education, defence, etc.) of government spending across jurisdictions. In this analysis, 14 functions are considered. A much finer breakdown would increase the information content of this exercise, nonetheless, the chosen disaggregation is sufficiently fine to get an adequate picture on the evolution and structure of spending while, at the same time, keeping the exercise manageable.

The CIEA provide a consistent disaggregation of government spending on a National Accounts basis (wages and salaries, capital formation, etc.). In this analysis, six components have been considered. It is important to note that there are coverage and accounting differences between the two systems. As such, they occasionally produce minor differences in the picture of the evolution and structure of government spending even at the aggregate level. However, it is impossible to avoid this problem if we want to tap simultaneously the wealth of information contained in both systems.

This analysis examines the main developments in government spending over the entire 1975-1989 period as well as over two sub-periods: 1975-1983 and 1983-1989. This choice of sub-periods reflects the peak in total government spending[5] as a proportion of GDP on a National Accounts basis in 1983[6]. In some jurisdictions, the peak may have occurred in a different year. In comparing spending across provinces, it is important to keep this in mind.

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5. In this analysis, total government spending on a National Accounts basis is defined as the consolidation of federal and provincial-local-hospital spending. The Canada and Québec pension plans are excluded in order to enhance comparability with the FMS universe.

6. On a Financial Management System basis, the peak occurred in 1982-83.

2.2.1 Main Conclusions

A number of conclusions emerge from the analysis of the evolution and structure of government spending[7].

Total Government Spending

- Total government spending, as a proportion of GDP, increased almost 6 percentage points in the second half of the 1970s and the early 1980s to peak at 48 per cent in 1982-83.
- Since 1982-83, this spending ratio has declined by close to 4 percentage points with all jurisdictions sharing in the decline.
- Between 1975-76 and 1982-83, public debt charges accounted for the largest share of the increase in the total spending ratio.
- Program spending, relative to GDP, also rose over this period.
- After 1982-83, public debt charges continued to increase rapidly as a proportion of GDP but this rise was more than offset by a decline in the program spending ratio. By 1989-90, public debt charges had become the second largest component of total spending, just barely behind social services and accounting for 20 per cent of spending.
- The annual growth in real government spending highlights the role of inflation in explaining the rapid growth in nominal spending in the late 1970s and early 1980s and the much lower pace observed for the remainder of the 1980s.
- From 1975-76 to 1982-83, real growth in total government spending reached 4.8 per cent, significantly less than the nominal rate of 13.9 per cent. Over the same period program spending grew 3.9 per cent in real terms and 12.9 per cent in nominal terms.
- After 1982-83, real growth in spending declined to 2.9 per cent but nominal growth fell to 7.0 per cent as a result of significantly lower rates of inflation. The corresponding growth rates for program spending were 2.0 and 6.0 per cent respectively.

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7. Unless otherwise indicated, the conclusions presented in this sub-section refer to the information on a Financial Management System (FMS) basis.

Federal Spending

Recent Trends

- From 1975-76 to 1982-83, federal spending as a proportion of GDP increased 3.2 percentage points to 25 per cent, with public debt charges accounting for over two thirds of the increase. Although public debt charges continued to increase significantly in the remainder of the 1980s, the total federal spending ratio declined 2 percentage points to 23 per cent in 1989-90.

- Most components contributed to the decline in federal program spending as a proportion of GDP in the 1980s. Roughly three quarters of this decline reflected lower direct spending (mainly resource conservation, industrial development, and general services) and one quarter reflected reduced specific transfers to other levels of government.

Structure

- The share of public debt charges in total federal spending has more than doubled since the mid-1970s. In 1989-90, debt charges represented 26.3 per cent of federal spending and were the second largest component after social services spending which represented 29 per cent of the total.

- A significant share of federal spending is comprised of specific and general transfers to other levels of government. About two thirds of federal transfers are comprised of specific transfers targeted at health, education and social services.

- In 1989-90, federal specific and general transfers (excluding tax transfers) to other levels of government accounted for about one sixth of total federal spending and one fifth of federal program spending. Federal cash transfers, as a proportion of GDP, declined from 4.5 per cent to 3.9 per cent over the 15-year period, largely on account of a smaller share of specific transfers.

Cost Drivers

- From 1975-76 to 1989-90, debt charges were the fastest growing component of federal spending with an average annual rate of

increase of 17.8 per cent. This component accounted for almost one third of the increase in total federal spending over this period. Although the growth in debt charges slowed in the 1980s, this component accounted for 40 per cent of the increase in total federal spending over this period.

- Social services spending accounted for close to 30 per cent of the increase in total federal spending since the mid-1970s, by far the largest contribution among program spending.

- On a CIEA basis, the growth in federal program spending over the last 15 years was led by transfers to persons and to other levels of government.

- Excluding public debt charges, transfers to persons as well as to other levels of government were the main contributors to the increase in total spending, although the contribution of transfers to persons was significantly reduced after 1983.

- The growth in transfers to business was sharply reduced after 1983 and these actually declined by an average annual rate of 3.3 per cent over the 1983-89 period, largely reflecting the termination of energy subsidies related to the National Energy Program.

Provincial-Local Spending

Recent Trends

- From 1975-76 to 1982-83, total provincial-local spending as a proportion of GDP increased 2.5 percentage points to 27.6 per cent, reflecting mostly an increase in the program spending ratio.

- In the remainder of the 1980s, total provincial-local spending as a proportion of GDP declined 2 percentage points to 25.6 per cent, only slightly above the level recorded in the mid-1970s. This reflected a decline in the program spending ratio that more than offset the increase in the debt charges ratio.

Structure

- Health, education and social services spending accounts for over 55 per cent of total provincial-local spending and over 60 per cent of

provincial-local program spending; these shares have remained fairly stable over the last 15 years.

- In comparison with the situation at the federal level, debt charges represent a much smaller proportion of provincial-local spending: 11.6 per cent in 1989-90 compared to 26.3 per cent at the federal level.

- On a CIEA basis, wages and salaries, non-wage goods and services, and transfers to persons accounted for about 75 per cent of total spending over the entire period.

- The share of provincial-local spending represented by wages and salaries was over three times as large as the corresponding share at the federal level.

Cost Drivers

- Among the components of spending, debt charges have grown the fastest since the mid-1970s with an average annual increase of 14.3 per cent. The share of debt charges in provincial-local spending increased from 6.9 per cent in 1975-76 to 11.6 per cent in 1989-90.

- The health, social services and education components accounted for over half of the increase in provincial-local spending over the period; health spending alone accounted for close to 25 per cent of the increase.

- On a CIEA basis, the growth in wages and salaries was by far the main contributor (32 per cent) to the overall increase in total provincial-local spending.

- Among other components, non-wage goods and services and transfers to persons also contributed significantly to the growth of total provincial-local spending over the whole period.

Inter-Provincial Comparisons

- On average, over the 1975-76 to 1989-90 period, growth in per capita spending in most provinces was close to the all-province average of 9.0 per cent; the lowest rates were recorded in British Columbia (7.7 per cent) and Prince Edward Island (7.9 per cent).

- The growth in overall provincial-local per capita spending averaged 12.1 per cent from the mid-1970s to 1982-83, and 6.0 per cent in the remainder of the 1980s.

- In many cases, provinces with the highest per capita growth rate in the first sub-period were those with the lowest per capita growth rate in the last sub-period.

Components

- Over the 1975-76 to 1989-90 period, all provinces experienced an increase in the share of total program spending dedicated to **health**. All provinces, with the exception of Saskatchewan showed an increase in the share of spending dedicated to **social services**. Meanwhile, all provinces, except Newfoundland and Nova Scotia, registered a decline in the share of program spending dedicated to **education**.

- Between 1975 and 1983, all provinces recorded per capita growth on **health** spending in excess of 10 per cent per annum with Saskatchewan in the lead at 16 per cent. The per capita growth in **social services** spending was higher at 13.6 per cent, and varied widely across all provinces and territories. Per capita growth in **education** spending ranged from 10 to 12 per cent in all provinces (except Manitoba at 8 per cent).

- After 1982-83, however, per capita growth slowed significantly for all these components. Per capita spending on **health** grew less rapidly with the four western provinces leading the way at 5.7 per cent; growth in Ontario (9.9 per cent) and Nova Scotia (8.1 per cent) exceeded the all-province average (7.7 per cent). Total spending dedicated to **social services** also slowed significantly to the 7-per-cent range with extremes of -2 per cent in Saskatchewan and 10 per cent in Ontario. Finally, per capita growth in **education** spending slowed dramatically to an all-province average of under 5 per cent with British Columbia at the bottom end of the range (2 per cent) and Ontario and Nova Scotia at the top (7 per cent).

- Between 1975 and 1983, per capita spending on **wages and salaries** grew in excess of 10 per cent in all provinces with Prince Edward Island in the lead at 12.2 per cent. The per capita growth in **non-wage goods and services** spending was very rapid, averaging 14.4 for all provinces. The growth in per capita **transfers to persons** was in excess of 10 per cent in all provinces with Alberta recording the fastest growth among provinces at 18.1 per cent.

- After 1983, per capita growth in **wages and salaries** was reduced by half its previous level to 5.0 per cent. British Columbia recorded the slowest growth at 2.8 per cent while Newfoundland and Ontario recorded the fastest growth among provinces at 7.4 and 6.4 per cent respectively.

- A drastic decline in the growth of per capita **non-wage goods and services** spending was also recorded for all provinces. Compared to a 7.0-percentage point decline to 6.1 per cent in the all-province per capita growth rate, Newfoundland and British Columbia recorded the largest decline while Ontario maintained a relatively strong growth at 7.2 per cent.

- Finally, a significant deceleration occurred in the growth of per capita **transfers to persons**. Alberta recorded by far the greatest decline while growth in Ontario remained relatively close to its pre-1983 level.

- Per capita **transfers to business** also slowed significantly after 1983, with the rate of increase falling to 3.2 per cent as compared to 20.5 per cent between 1975 and 1983. The largest declines in growth were recorded in Alberta and Nova Scotia.

- **Capital formation** is the only component recording an increase in its per capita growth in the latter period as compared to the former. All provinces except Alberta experienced higher growth in their per capita capital formation spending after 1983. However, with the exception of both Territories, all jurisdictions showed a decline in their gross-capital-formation-to-GDP ratio over this period.

- As a result, the PLH net-capital-stock-to-GDP ratio fell from 47.2 per cent in 1975 to 37.9 per cent in 1989. For the federal sector, the ratio declined from 11.9 per cent to 6.9 per cent over the period.

2.2.2 Detailed Analysis

A. *TOTAL GOVERNMENT SPENDING*

A.1 The Evolution of Total Government Spending

Table 2.1
Total Spending by Level of Government -- FMS Basis

	Total	Federal		Provincial		Local
		Gross	Direct	Gross	Direct	
$billion						
1975-76	72.3	37.5	32.4	34.4	28.1	16.0
1978-79	99.5	50.7	42.9	48.2	39.6	23.1
1982-83	179.8	93.8	83.5	85.7	70.6	35.5
1985-86	224.0	116.9	102.7	107.6	90.8	41.9
1989-90	287.9	149.3	133.5	134.9	114.1	55.0
Per cent of GDP						
1975-76	42.2	21.8	18.9	20.0	16.4	9.3
1978-79	41.2	21.0	17.7	19.9	16.4	9.6
1982-83	48.0	25.0	22.3	22.9	18.9	9.5
1985-86	46.9	24.5	21.5	22.5	19.0	8.8
1989-90	44.4	23.0	20.6	20.8	17.6	8.5

- Total government spending, as a proportion of GDP, increased almost 6 percentage points in the second half of the 1970s and in the early 1980s to peak at 48 per cent in 1982-83. Total federal spending accounted for just over half of this increase.
- Since 1982-83, total government spending as a proportion of GDP have declined by close to 4 percentage points; all jurisdictions shared in this decline.
- Local government spending, as a proportion of GDP, declined over the last 15 years. In 1989-90, the local government spending ratio, at 8.5 per cent, was about one percentage point smaller than in 1975-76.

A.2 The Structure of Total Government Spending

Table 2.2
Total Government Spending by Function – FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
General Services	3.0	7.1	3.0	6.1	2.6	5.9
Protection of Persons	3.3	7.9	3.7	7.6	3.4	7.7
Transportation & Communications	3.4	8.1	3.0	6.2	2.2	5.0
Health	5.2	12.4	5.8	12.1	5.9	13.3
Social Services	9.0	21.4	10.1	21.0	9.4	21.1
Education	6.2	14.7	6.2	12.9	5.4	12.1
Resource Cons. & Ind. Dev.	3.1	7.3	3.9	8.2	1.9	4.4
Environment	1.1	2.6	1.0	2.0	1.0	2.3
Recreation & Culture	1.0	2.5	1.0	2.2	0.9	2.1
Foreign Affairs & Int. Ass.	0.4	1.0	0.4	0.9	0.5	1.2
Regional Planning & Dev.	0.2	0.5	0.3	0.6	0.2	0.5
Other Programs	2.1	4.9	2.6	5.4	1.9	4.3
Total Program Expenditures	38.1	90.4	40.9	85.1	35.4	79.7
Debt Charges	4.0	9.6	7.1	14.9	9.0	20.3
Total Expenditures	42.2	100.0	48.0	100.0	44.4	100.0

- Between 1975-76 and 1982-83, public debt charges accounted for the largest share of the increase in the total government spending-to-GDP ratio.
- Program spending, relative to GDP, also rose over this period led by social services, resource conservation and industrial development, health, and other programs.
- After 1982-83, public debt charges continued to increase rapidly as a ratio to GDP. This increase, however, was more than offset by a decline in the program spending ratio.
- All expenditure functions contributed to the decline in the program spending ratio with the exception of health and foreign affairs and international assistance, which increased over this period, and environment spending which remained constant. The decline was led by resource conservation and industrial development, transportation and communications and education.
- Over the entire 15-year period, the total spending-to-GDP ratio rose by roughly 2 percentage points, which consisted of a rise of 5 points in debt charges and a decline of about 3 points in total program spending.
- By 1989-90, public debt charges had become the second largest component of total spending just barely behind social services, accounting for over 20 per cent of total spending.
- Health, education and social services spending accounted for close to 60 per cent of program spending in 1989-90 and close to 50 per cent of total spending.

Table 2.2A
Total Government Spending – CIEA Basis
(per cent)

	1975		1983		1989	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
Wages and Salaries	12.1	30.7	12.2	26.7	10.7	25.1
Non-wage Goods and Services[1]	7.2	18.3	8.6	18.9	8.1	19.2
Transfers to Persons	10.0	25.3	11.8	25.8	10.3	24.2
Transfers to Business	2.6	6.7	3.3	7.2	2.0	4.8
Capital Formation	3.7	9.3	2.6	5.6	2.4	5.6
Total Program	35.6	90.3	38.4	84.1	33.5	78.9
Debt Charges	3.8	9.7	7.3	15.9	9.0	21.1
Total Expenditures	39.5	100.0	45.7	100.0	42.4	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Between 1975 and 1983, total government program spending on a national accounts basis increased 2.8 percentage points relative to GDP to 38.4 per cent. Among components, wages and salaries remained almost unchanged relative to GDP but declined as a share of total spending. Transfers to persons and, to a lesser extent, non-wage goods and services and transfers to business increased relative to GDP. Capital formation declined significantly over this period.

- From 1983 to 1989, all components of program spending decreased relative to GDP. Wages and salaries and transfers to persons and business recorded the most significant declines.

A.3 Growth in Total Government Spending

Table 2.3
Growth in Total Government Spending -- FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.
General Services	8.9	5.5	11.5	5.5	6.3	5.4
Protection of Persons	10.1	7.6	13.3	7.4	7.1	7.8
Transportation & Communications	6.7	4.0	9.8	5.0	3.6	2.9
Health	10.9	13.5	13.4	11.8	8.4	15.3
Social Services	10.3	21.0	13.6	20.8	7.0	21.2
Education	8.8	11.2	11.8	11.7	5.9	10.7
Resource Cons. & Ind. Dev.	6.4	3.4	15.6	8.7	-2.2	-1.9
Environment	9.1	2.1	9.5	1.6	8.7	2.7
Recreation & Culture	9.0	1.9	11.7	2.0	6.3	1.9
Foreign Affairs & Int. Ass.	11.5	1.3	10.9	0.7	12.2	1.8
Regional Planning & Dev.	11.6	0.6	16.9	0.6	6.6	0.5
Other Programs	9.3	4.1	15.5	5.7	3.6	2.5
Total Program Expenditures	9.4	76.1	12.9	81.6	6.0	70.7
Debt Charges	16.5	23.9	21.3	18.4	11.8	29.3
Total Expenditures	10.4	100.0	13.9	100.0	7.0	100.0

- Over the 1975-76 to 1989-90 period, public debt charges grew at an average annual rate of 16.5 per cent, by far the largest increase among the components of total government spending. This component alone accounted for about 25 per cent of the increase in total government spending over this period.

- Among program spending functions, regional planning and development and foreign affairs and international assistance showed the strongest growth, recording average annual rates of increase of 11.6 and 11.5 per cent respectively.

- While growing at a somewhat slower pace, spending on health, social services and education contributed over 45 per cent of the growth in total spending over the period. This largely reflects their relative importance of these items in total spending.

- After averaging an annual rate of 13.9 per cent from 1975-76 to 1982-83, the growth of total government spending declined to 7 per cent in the remainder of the 1980s. Social services, debt charges, health and education spending accounted for over 75 per cent of the growth in total government spending over the 1982-1989 period.

- The absolute decline in spending on resource conservation and industrial development, after 1982-83, reflects the abolition of the National Energy Program and the termination of the related subsidies to the oil and gas sector.

Table 2.3A
Real Growth in Total Government Spending -- FMS Basis
(per cent)

	1975-76 to 1989-90 Average Annual Growth	1975-76 to 1982-83 Average Annual Growth	1982-83 to 1989-90 Average Annual Growth
General Services	2.5	2.7	2.3
Protection of Persons	3.6	4.2	3.1
Transportation & Communications	0.4	1.0	-0.3
Health	4.4	4.4	4.4
Social Services	3.7	4.5	3.0
Education	2.4	2.8	2.0
Resource Cons. & Ind. Dev.	0.1	6.4	-5.8
Environment	2.7	0.7	4.7
Recreation & Culture	2.6	2.8	2.3
Foreign Affairs & Int. Ass.	4.9	2.0	8.0
Regional Planning & Dev.	5.0	7.5	2.6
Other Programs	2.9	6.2	-0.3
Total Program Expenditures	2.9	3.9	2.0
Debt Charges	9.6	11.6	7.6
Total Expenditures	3.9	4.8	2.9

- An examination of the real growth in total government spending highlights the role of inflation in explaining the rapid increase in nominal government spending in the late 1970s and early 1980s and the much lower pace observed for the remainder of the 1980s.

- Over the 1975-76 to 1989-90 period, real growth in total government spending averaged 3.9 per cent a year compared to 10.4 per cent in nominal terms. From 1975-76 to 1982-83, real growth in total government spending reached 4.8 per cent, significantly less than the nominal rate of 13.9 recorded over this period.

- While the nominal average annual growth in total government spending declined 6.9 percentage points to 7.0 per cent over the 1982-83 to 1989-90 period, the real average annual growth declined only 1.9 percentage points to 2.9 per cent.

Table 2.3B
Growth in Total Government Spending – CIEA Basis
(per cent)

	1975-1989		1975-1983		1983-1989	
	Annual Average Growth	Contrib.	Annual Average Growth	Contrib.	Annual Average Growth	Contrib.
Wages and Salaries	9.0	23.3	11.4	24.3	5.8	21.9
Non-wage Goods and Services[1]	10.9	19.5	13.8	19.2	7.1	19.8
Transfers to Persons	10.2	23.8	13.7	26.0	5.7	20.9
Transfers to Business	8.0	4.2	14.5	7.5	-0.2	-0.2
Capital Formation	6.6	4.4	6.5	3.5	6.8	5.5
Total Program	9.5	75.1	12.4	80.5	5.7	68.1
Debt Charges	16.9	24.4	20.7	19.5	12.0	31.9
Total Expenditures	10.5	100.0	13.4	100.0	6.8	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Between 1975 and 1989, total government spending, on a National Accounts basis, increased at an annual average rate of 10.5 per cent. The three main components of program spending -- transfers to persons, wages and salaries and non-wage goods and services -- accounted for two thirds of this increase.

- After averaging an annual rate in excess of 11 per cent between 1975 and 1983, the growth of these three components declined significantly during the 1983-1989 period.

- Transfers to business declined in absolute terms after 1983, again largely as a result of the termination of subsidies to the oil and gas sector.

Table 2.3C
Real Growth in Total Government Spending -- CIEA Basis
(per cent)

	1975 to 1989 Average Annual Growth	1975 to 1983 Average Annual Growth	1983 to 1989 Average Annual Growth
Wages and Salaries	2.5	2.9	2.0
Non-wage Goods and Services[1]	4.4	5.2	3.3
Transfers to Persons	3.7	5.0	1.9
Transfers to Business	1.6	5.8	-3.7
Capital Formation	0.3	-1.7	2.9
Total Program	3.0	3.8	1.9
Debt Charges	10.0	11.5	8.0
Total Expenditures	4.0	4.8	3.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Abstracting from the impact of inflation, the growth in total government spending exhibits a much more stable profile across sub-periods since the mid-1970s.
- Among the components of program spending, non-wage goods and services, transfers to persons, and wages and salaries showed respectively the strongest real growth rates over the 1975 to 1989 period.
- The growth in debt charges swamped that of program spending over the entire period and both sub-periods. After 1983, their real growth was in fact four-fold greater than that of program spending.
- Transfers to business registered the largest decline in real growth rate over the two periods and actually fell at an average annual rate of almost 4 per cent after 1983.

A.4 Total Government Direct Spending by Level of Government

Table 2.4

Distribution of Direct Spending by Level of Government – FMS Basis
(per cent of total government spending)

	Federal		Provincial		Local	
	1975-76	1989-90	1975-76	1989-90	1975-76	1989-90
General Services	48.8	41.5	37.3	41.5	13.9	17.0
Protection of Persons	59.2	62.2	19.4	17.6	21.4	20.2
Transportation & Communications	24.7	23.0	42.3	36.9	33.0	40.1
Health	2.4	2.7	89.4	89.2	8.2	8.1
Social Services	68.5	61.9	28.2	34.2	3.4	3.9
Education	4.8	4.8	31.8	32.3	63.4	62.9
Resource Cons. & Ind. Dev.	66.8	52.5	31.3	42.7	1.9	4.8
Environment	12.3	9.0	16.9	14.3	70.9	76.7
Recreation & Culture	19.2	18.2	24.5	25.3	56.3	56.4
Foreign Affairs & Int. Ass.	100.0	100.0	-	-	-	-
Regional Planning & Dev.	36.8	25.6	41.1	41.5	22.2	32.9
Other Programs	58.8	62.0	28.2	25.4	13.0	12.6
Total Program Expenditures	43.5	41.0	33.5	36.5	23.0	22.4
Debt Charges	57.4	67.2	29.0	26.7	13.7	6.1
Total Expenditures	44.8	46.4	33.1	34.5	22.1	19.1

- An examination of the allocation of direct program spending across jurisdictions provides a perspective on who is ultimately responsible for delivering public services to citizens.

- In 1989-90, federal and provincial governments accounted for the lion's share of total government direct program spending. However, the federal share has decreased since the mid-1970s reflecting declines in its share for all components with the exception of the protection of persons, health, and other programs components. This largely reflected changes in the distribution of social services and resource conservation and industrial development direct spending.

- In 1989-90, the federal administration was entirely responsible for spending on foreign affairs and international assistance and was largely responsible for direct spending on social services and protection of persons. Provincial administrations accounted for 90 per cent of total direct health spending while local administrations were largely responsible for environment, education, and recreation and culture direct spending.

- Reflecting the strong increase of public debt charges over the period, both federal and provincial shares of total direct increased over the last 15 years.

B. *FEDERAL SPENDING*

B.1 The Structure of Federal spending

Table 2.5
The Structure of Federal Government Spending -- FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
General Services	1.5	6.7	1.1	4.3	1.1	4.7
Protection of Persons	2.0	9.1	2.3	9.2	2.2	9.4
Transportation & Communications	0.9	4.1	0.8	3.0	0.5	2.3
Health	1.6	7.4	1.2	4.9	1.2	5.2
Social Services	6.9	31.6	7.6	30.2	6.7	29.0
Education	0.7	3.1	0.8	3.1	0.7	2.8
Resource Cons. & Ind. Dev.	2.3	10.4	2.6	10.3	1.1	4.7
Environment	0.2	0.8	0.1	0.5	0.1	0.4
Recreation & Culture	0.2	0.9	0.2	0.7	0.2	0.7
Foreign Affairs & Int. Ass.	0.4	2.0	0.4	1.6	0.5	2.3
Regional Planning & Dev.	0.1	0.4	0.0	0.2	0.1	0.3
General Transfers to OLG	1.6	7.2	1.7	6.6	1.5	6.7
Other Programs	1.3	5.8	1.8	7.4	1.2	5.2
Total Program Expenditures	19.5	89.4	20.5	82.0	17.0	73.7
Debt Charges	2.3	10.6	4.5	18.0	6.0	26.3
Total Expenditures	21.8	100.0	25.0	100.0	23.0	100.0

- From 1975-76 to 1982-83, federal spending as a proportion of GDP increased 3.2 percentage points to 25 per cent, with public debt charges accounting for over two thirds of the increase. Although public debt charges continued to increase significantly in the remainder of the 1980s, the total federal spending ratio declined 2 percentage points to 23 per cent in 1989-90; this evolution reflects a 3.5-percentage-point decline in the program spending ratio partly offset by a 1.5-percentage-point increase in debt charges.

- Most components contributed to the decline in federal program spending as a proportion of GDP in the 1980s, while regional planning and development and foreign affairs and international assistance increased marginally. The most significant declines were recorded in resource conservation and industrial development and social services spending respectively.

- The share of federal program spending in total federal spending declined markedly, from 89.4 per cent in 1975-76 to 73.7 per cent in 1989-90.

- Among the components, social services spending is by far the largest, representing close to 40 per cent of program spending in 1989-90 and almost 30 per cent of total spending.

Table 2.5A

The Structure of Federal Government Spending – CIEA Basis

(per cent)

	1975		1983		1989	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
Wages and Salaries	2.9	14.1	2.7	11.6	2.3	10.5
Non-wage Goods and Services[1]	2.0	9.5	2.1	9.0	2.0	9.2
Transfers to Persons	6.6	31.5	7.5	32.1	6.2	28.9
Transfers to Business	2.1	10.0	2.0	8.6	1.0	4.8
Transfers to OLG	4.5	21.5	4.3	18.6	3.9	18.2
Capital Formation	0.6	3.0	0.4	1.6	0.3	1.6
Total Program	18.6	89.6	19.0	81.6	15.8	73.2
Debt Charges	2.2	10.4	4.3	18.4	5.8	26.8
Total Expenditures	20.8	100.0	23.3	100.0	21.5	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- In 1989, transfers to persons accounted for roughly 29 per cent of total federal spending while transfers to other levels of governments accounted for some 18 per cent. Federal wages and salaries -- excluding supplementary labour incomes -- accounted for slightly over 10 per cent of total federal spending.

- Between 1975 and 1983, transfers to persons were the main source of increase of the federal program spending-to-GDP ratio. Other components remained relatively stable or declined marginally relative to GDP over the period.

- After 1983, however, the sharp decline in the program spending ratio was the result of the significant decline in all types of federal transfers, especially those to persons and business. Federal wages and salaries also declined relative to GDP over this period.

B.2 Federal Spending: Direct Versus Transfers

Table 2.6
Federal Spending by Function -- FMS Basis
(per cent of GDP)

	1975-76			1989-90		
	Gross	Direct	Transfers[1]	Gross	Direct	Transfers[1]
General Services	1.5	1.5	-	1.1	1.1	-
Protection of Persons	2.0	2.0	0.0	2.2	2.1	0.0
Transportation & Communications	0.9	0.8	0.0	0.5	0.5	0.0
Health	1.6	0.1	1.5	1.2	0.2	1.0
Social Services	6.9	6.2	0.7	6.7	5.8	0.9
Education	0.7	0.3	0.4	0.7	0.3	0.4
Resource Cons. & Ind. Dev.	2.3	2.1	0.2	1.1	1.0	0.1
Environment	0.2	0.1	0.0	0.1	0.1	0.0
Recreation & Culture	0.2	0.2	0.0	0.2	0.2	0.0
Foreign Affairs & Int. Ass.	0.4	0.4	-	0.5	0.5	-
Regional Planning & Dev.	0.1	0.1	0.0	0.1	0.1	0.0
General Transfers to OLG	1.6	-	1.6	1.5	-	1.5
Other Program	1.3	1.2	0.0	1.2	1.2	0.0
Total Program Expenditures	19.5	15.0	4.5	17.0	13.0	3.9
Debt Charges	2.3	2.3	0.0	6.0	6.0	0.0
Total Expenditures	21.8	17.3	4.5	23.0	19.0	3.9

1. Include cash transfers only.

- A significant share of federal spending is comprised of cash and tax transfers to other levels of government. The FMS provides information only on cash transfers which can be disaggregated between specific and general transfers. In the case of specific transfers, the federal government contributes to the financing of activities in areas of provincial and local jurisdiction. General transfers mainly address imbalances between a province's revenue raising capacities and spending responsibilities, mainly through the Equalization program.

- About two thirds of federal transfers are comprised of specific transfers targeted at health, education, and social services.

- In 1989-90, federal specific and general transfers to other levels of government accounted for about one sixth of total federal spending and one fifth of federal program spending. Federal transfers, as a proportion of GDP, declined from 4.5 to 3.9 per cent over the 15-year period, largely on account of a smaller share of specific transfers.

- Specific transfers to other levels of government account for almost all of federal spending on health and education. They are also relatively significant in the case of social services, though transfers in this area are dwarfed by direct spending.

B.3 Growth in Federal Spending

Table 2.7
Growth in Federal Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.
General Services	7.6	4.0	7.0	2.7	8.2	5.4
Protection of Persons	10.7	9.5	14.3	9.3	7.1	9.7
Transportation & Communications	6.1	1.7	9.2	2.3	3.0	1.2
Health	7.6	4.4	7.5	3.3	7.7	5.6
Social Services	9.7	28.1	13.2	29.2	6.3	26.9
Education	9.6	2.7	13.6	3.0	5.7	2.4
Resource Cons. & Ind. Dev.	4.3	2.8	13.9	10.3	-4.5	-4.8
Environment	5.2	0.3	7.0	0.3	3.4	0.2
Recreation & Culture	8.7	0.7	9.2	0.5	8.2	0.8
Foreign Affairs & Int. Ass.	11.5	2.4	10.9	1.4	12.2	3.4
Regional Planning & Dev.	8.0	0.2	2.5	0.0	13.8	0.4
General Transfers to OLG	9.9	6.6	12.7	6.2	7.1	6.9
Other Program	9.5	5.0	18.1	8.5	1.6	1.5
Total Program Expenditures	8.9	68.5	12.6	77.1	5.3	59.7
Debt Charges	17.8	31.5	23.0	22.9	12.8	40.3
Total Expenditures	10.4	100.0	14.0	100.0	6.9	100.0

- From 1975-76 to 1989-90, debt charges were the fastest growing component of federal spending with an average annual rate of increase of 17.8 per cent. This component accounted for almost one third of the increase in total federal spending over this period. Although the growth in debt charges slowed in the 1980s, this component still accounted for 40 per cent of the increase in total federal spending over this period.

- Since the mid-1970s, social services spending accounted for close to 30 per cent of the increase in total federal spending, by far the largest contribution. This mainly reflects the relative share of this component in program spending.

Table 2.7A
Growth in Federal Spending – CIEA Basis
(per cent)

	1975-1989		1975-1983		1983-1989	
	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.
Wages and Salaries	8.0	9.3	10.4	10.2	4.9	8.2
Non-wage Goods and Services[1]	10.0	9.1	12.3	8.8	7.1	9.6
Transfers to Persons	9.5	27.9	13.2	32.4	4.8	22.0
Transfers to Business	4.5	2.9	10.8	7.7	-3.3	-3.3
Transfers to OLG	9.0	17.2	11.0	16.9	6.4	17.5
Capital Formation	5.4	1.1	4.5	0.8	6.7	1.6
Total Program	8.7	67.6	11.7	76.8	4.8	55.7
Debt Charges	17.9	32.4	21.3	23.2	13.6	44.3
Total Expenditures	9.5	100.0	13.0	100.0	6.7	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Over the entire period, the growth in federal program spending was led by transfers to persons and to other levels of government.
- Transfers to persons as well as to other levels of government remained the main contributors to the increase in total spending over the two sub-periods, although the contribution of transfers to persons was significantly reduced in the 1983-1989 period.
- Transfers to businesses declined at an average annual rate of over 3 per cent between 1983 and 1989 reflecting the termination of subsidies related to the National Energy Program.

Table 2.7B
Federal Employment[1]

	1975 ('000)	1983 ('000)	1989 ('000)	annual average growth (per cent) 1975-1989	1983-1989
Total	410.5	375.6	374.5	-0.7	-0.1

1. Includes National Defence military personnel and RCMP uniformed personnel.

Source: Statistics Canada, Federal Government Employment, cat 72-004.

- The growth in federal wages and salaries from 1975 to 1989 reflects increases in average wage rates as federal employment declined 0.7 per cent over this period.

C. *PROVINCIAL-LOCAL SPENDING*

C.1 The Structure of Provincial-Local Spending

Table 2.8
Provincial-Local Government Spending by Function -- FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
General Services	1.5	6.1	1.9	6.8	1.5	6.0
Protection of Persons	1.4	5.6	1.4	5.2	1.3	5.2
Transportation & Communications	2.6	10.2	2.3	8.2	1.7	6.6
Health	5.1	20.3	5.6	20.4	5.8	22.8
Social Services	2.8	11.4	3.3	12.1	3.4	13.3
Education	6.1	24.2	6.1	21.9	5.2	20.3
Resource Cons. & Ind. Dev.	1.0	4.1	1.7	6.0	1.1	4.3
Environment	1.0	3.9	0.9	3.1	0.9	3.5
Recreation & Culture	0.8	3.4	0.9	3.2	0.8	2.9
Foreign Affairs & Int. Ass.	-	-	-	-	-	-
Regional Planning & Dev.	0.1	0.5	0.2	0.8	0.2	0.7
Other Program	0.8	3.4	0.7	2.7	0.7	2.8
Total Program Expenditures	23.3	93.1	25.0	90.4	22.6	88.4
Debt Charges	1.7	6.9	2.6	9.6	3.0	11.6
Total Expenditures	25.1	100.0	27.6	100.0	25.6	100.0

- From 1975-76 to 1982-83, total provincial-local spending as a proportion of GDP increased 2.5 percentage points to 27.6 per cent, reflecting mostly the increase in the program spending ratio.
- Spending on resource conservation and industrial development, health, and social services accounted for most of the increase in the ratio of program spending to GDP over this period.
- In the remainder of the 1980s, total provincial-local spending as a proportion of GDP declined 2 percentage points to 25.6 per cent, only slightly above the level recorded in the mid-1970s. This reflects a decline in the program spending ratio that more than offset the increase in the debt charges ratio.
- It is interesting to note that, relative to GDP, all components of program spending declined or remained constant over the 1982-1989 period with the exception of health and social services which increased marginally.
- Health, education, and social services spending accounts for over 55 per cent of total provincial-local spending; this share has remained fairly stable over the last 15 years.
- In comparison with the situation at the federal level, debt charges represent a relatively smaller proportion of provincial-local spending.

Table 2.8A

Provincial-Local-Hospital Government Spending -- CIEA Basis

(per cent)

	1975		1983		1989	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
Wages and Salaries	9.2	39.8	9.5	35.5	8.4	33.8
Non-wage Goods and Services[1]	5.3	22.8	6.5	24.4	6.2	24.8
Transfers to Persons	3.4	14.8	4.3	16.0	4.0	16.3
Transfers to Business	0.6	32.4	1.3	4.8	1.0	4.1
Capital Formation	3.0	13.1	2.2	8.2	2.0	8.1
Total Program	21.5	92.9	23.7	88.9	21.6	87.1
Debt Charges	1.7	7.1	3.0	11.1	3.2	12.9
Total Expenditures	23.1	100.0	26.7	100.0	24.8	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- From 1975 to 1983, non-wage goods and services, transfers to persons, and transfers to business accounted for most of the increase in the PLH program spending-to-GDP ratio.
- Between 1983 and 1989, the 1.1-percentage-point decline in the wages-and-salaries-to-GDP ratio accounted for more than half of the decrease in the program spending ratio; other components also declined but only marginally.
- Wages and salaries, non-wage goods and services, and transfers to persons accounted for about 75 per cent of total spending over the entire period.

C.2 Growth in Provincial-Local Spending

Table 2.9
Growth in Provincial-Local Government Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.
General Services	9.9	5.9	15.1	7.3	5.0	4.6
Protection of Persons	9.6	5.1	12.2	5.0	6.9	5.2
Transportation & Communications	6.8	5.4	10.0	6.8	3.7	3.9
Health	11.0	23.6	13.4	20.5	8.7	26.7
Social Services	11.4	14.0	14.4	12.6	8.4	15.3
Education	8.7	18.9	11.8	20.3	5.8	17.6
Resource Cons. & Ind. Dev.	10.6	4.4	19.7	7.4	2.1	1.6
Environment	9.4	3.4	9.7	2.5	9.1	4.3
Recreation & Culture	9.1	2.8	12.3	3.0	6.0	2.6
Regional Planning & Dev.	12.7	0.7	21.5	1.0	4.5	0.5
Other Program	8.7	2.6	9.6	2.2	7.7	3.0
Total Program Expenditures	9.7	86.8	12.9	88.5	6.6	85.1
Debt Charges	14.3	13.2	18.8	11.5	9.9	14.9
Total Expenditures	10.1	100.0	13.4	100.0	7.0	100.0

- Total provincial-local spending increased at an average annual rate of 10.1 per cent over the 1975-76 to 1989-90 period. The average annual growth was 13.4 per cent up to 1982-83 mainly reflecting high inflation rates (around 9 per cent). The growth was almost cut in half to 7.0 per cent in the remainder of the 1980s largely on account of lower inflation rates (some 4 per cent).

- Among the components of spending, debt charges grew the fastest since the mid-1970s with an average annual increase of 14.3 per cent. Although they grew at a somewhat lower pace, the health, social services and education components accounted for over half of the increase in provincial-local spending over the period.

- Health spending alone accounted for close to 25 per cent of the increase in total provincial-local spending since the mid-1970s.

Table 2.9A

Growth in Provincial-Local-Hospital Government Spending – CIEA Basis

(per cent)

	1975-1989		1975-1983		1983-1989	
	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.	Average Annual Growth	Contrib.
Wages and Salaries	9.2	31.8	11.7	33.0	6.0	30.3
Non-wage Goods and Services[1]	11.2	25.5	14.4	25.4	7.1	25.6
Transfers to Persons	11.3	16.8	14.5	16.7	7.2	16.9
Transfers to Business	14.9	4.6	23.9	6.3	3.9	2.6
Capital Formation	6.8	6.5	6.8	5.3	6.8	8.0
Total Program	10.0	85.2	12.7	86.6	6.5	83.4
Debt Charges	15.3	14.8	19.8	13.4	9.6	16.6
Total Expenditures	10.5	100.0	13.4	100.0	6.9	100.0

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Over the 1975-1989 period, the growth in wages and salaries was by far the main contributor to the overall increase in total provincial-local spending. This reflected the large share of this component in total spending as its average annual growth rate was one of the smallest.

- Among other components, non-wage goods and services and transfers to persons also contributed significantly to the annual growth of total provincial-local spending over the whole period.

- Although they did not contribute significantly to the growth of provincial-local spending over the 1975 to 1989 period, transfers to business nevertheless exhibited a strong growth over this period reflecting an average annual rate of 23.9 per cent over the 1975 to 1983 sub-period.

C.3 Provincial Comparison of Growth in Total Spending[8]

Table 2.10
Growth in Provincial-Local Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	9.0	8.7	10.5	10.1	7.5	7.4
Prince Edward Island	8.7	7.9	10.4	9.8	7.0	6.1
Nova Scotia	10.0	9.4	12.2	11.7	7.8	7.2
New Brunswick	9.5	8.9	12.3	11.6	6.7	6.2
Québec	9.9	9.3	13.7	13.0	6.2	5.7
Ontario	10.2	8.9	10.9	9.9	9.4	8.0
Manitoba	10.2	9.6	11.7	11.4	8.6	7.9
Saskatchewan	9.9	9.1	14.4	13.2	5.5	5.0
Alberta	11.7	9.2	21.2	16.7	3.0	2.3
British Columbia	9.5	7.7	13.6	11.4	5.5	4.2
Yukon	12.0	10.6	12.8	10.9	11.2	10.2
Northwest Territories	14.3	12.2	16.2	13.9	12.5	10.6
Total	10.1	9.0	13.4	12.1	7.0	6.0

- In order to take into account provincial differences in population growth, inter-provincial comparisons of growth in spending are better done in per capita terms.

- There are some important differences in the growth of total provincial-local spending across provinces and territories. On average, over the 1975-76 to 1989-90 period, the fastest growth in per capita spending was recorded in Manitoba (9.6 per cent) and Nova Scotia (9.4 per cent) while the slowest per capita growth was recorded in British Columbia (7.7 per cent) and Prince Edward Island (7.9 per cent).

- From the mid-1970s to 1982-83, the growth in the overall provincial-local per capita spending averaged 12.1 per cent. Alberta and Saskatchewan led the increase with average annual per capita growth rates of 16.7 and 13.2 per cent respectively. The lowest per capita growth rates over this period were recorded in Prince Edward Island (9.8 per cent) and Ontario (9.9 per cent).

- The situation was significantly different throughout the remainder of the 1980s when Alberta (2.3 per cent), British Columbia (4.2 per cent), and Saskatchewan (5.0 per cent) recorded the lowest per capita spending growth while Ontario (8.0 per cent) and Manitoba (7.9 per cent) posted the highest.

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8. Growth in territorial spending is not comparable to that of the other regions because of structural changes that has occurred in the sharing of responsibilities between the federal and territorial governments.

C.4 Inter-Provincial Comparison of Total Spending[9]

Table 2.11
Total Provincial-Local Spending as a Proportion of GDP – FMS Basis
(per cent)

	1975-76	1982-83	1989-90
Newfoundland	47.0	41.7	42.0
Prince Edward Island	47.6	41.8	37.5
Nova Scotia	34.7	35.9	32.4
New Brunswick	35.9	38.5	31.5
Québec	28.2	33.0	28.8
Ontario	22.4	22.9	21.8
Manitoba	26.6	28.4	30.6
Saskatchewan	24.0	28.9	31.8
Alberta	20.7	27.9	27.5
British Columbia	24.9	25.7	22.8
Yukon	42.4	39.2	41.9
Northwest Territories	40.9	47.3	60.0
Total	25.1	27.6	25.6

- Total provincial-local spending as a proportion of GDP was higher in 1982-83 than in 1975-76 in most jurisdictions, the exceptions being Newfoundland, Prince Edward Island and Yukon.
- Between 1982-83 and 1989-90, total provincial-local spending declined as a proportion of GDP in a majority of jurisdictions. Increases were observed in Newfoundland, Manitoba, Saskatchewan, Yukon and Northwest Territories.
- The highest total spending-to-GDP ratios were recorded in Newfoundland, Prince Edward Island and the Territories. This reflects the relative size of their economy.

9. Spending ratios in the Territories are not comparable to that of the other regions because of structural changes that occurred in the sharing of responsibilities between the federal and territorial governments.

D. *HEALTH SPENDING*

D.1 The Structure of Provincial-Local Health Spending

Table 2.12
Provincial-Local Government Health Spending by Province – FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share of Programs	% of GDP	Share of Programs	% of GDP	Share of Programs
Newfoundland	8.5	20.1	8.3	23.3	7.8	22.5
Prince Edward Island	7.5	17.0	8.1	21.7	7.2	21.7
Nova Scotia	7.7	24.2	8.0	25.9	7.7	27.2
New Brunswick	6.5	19.4	8.5	24.7	7.4	26.7
Québec	5.9	22.4	5.9	20.4	5.7	22.7
Ontario	4.7	23.1	5.1	25.0	5.5	28.1
Manitoba	5.4	21.7	6.7	27.1	6.7	27.1
Saskatchewan	4.4	19.1	6.2	24.4	7.0	27.1
Alberta	4.0	20.3	4.6	17.3	5.5	22.0
British Columbia	4.9	20.4	6.2	25.5	6.0	29.5
Yukon	3.4	8.1	5.3	13.9	3.7	8.8
Northwest Territories[1]	3.8	9.4	5.3	11.4	8.4	15.2
Total	5.1	21.8	5.6	22.6	5.8	25.8

1. As a result of the transfer of responsibility for health services from the federal government to the Territories, there is a structural break in these series.

- With the exception of Newfoundland, Prince Edward Island, Québec, and Nova Scotia, all other provinces experienced an increase in their health-spending-to-GDP ratio from 1975-76 to 1989-90. Over the same period, all provinces experienced an increase in the share of health spending in total program spending.

- The largest increases in health spending as a proportion of GDP over the 1975-76 to 1989-90 period were recorded in Saskatchewan (2.6 percentage points), Alberta (1.5 percentage points), and Manitoba (1.3 percentage points).

- Between 1982-83 and 1989-90, all provinces with the exception Saskatchewan, Alberta and, Ontario showed a decline in health spending as a proportion of GDP.

- In 1989-90, British Columbia and Ontario were the two provinces allocating the largest share of their program spending to health (29.5 and 28.1 per cent respectively) while Prince Edward Island and Alberta were those allocating the smallest share (21.7 and 22.0 per cent respectively).

D.2 Provincial and Local Health Spending

Table 2.13
Disaggregation of Provincial-Local Health Spending -- FMS Basis
(per cent of GDP)

	Provincial Direct		Specific Transfers		Local	
	1975-76	1989-90	1975-76	1989-90	1975-76	1989-90
Newfoundland	8.5	7.8	-	-	-	-
Prince Edward Island	7.5	7.2	-	-	-	-
Nova Scotia	6.4	6.9	0.7	0.7	1.3	0.8
New Brunswick	6.5	7.3	-	-	-	-
Québec	5.9	5.7	-	-	-	-
Ontario	4.3	5.1	0.3	0.3	0.4	0.4
Manitoba	4.7	6.0	0.6	0.5	0.8	0.7
Saskatchewan	3.0	5.5	1.2	1.4	1.4	1.6
Alberta	2.9	3.9	1.0	1.4	1.2	1.8
British Columbia	4.9	5.8	-	-	0.1	0.2
Yukon	3.4	3.7	-	-	-	-
Northwest Territories[1]	3.8	8.4	-	-	-	-
Total	4.7	5.4	0.3	0.3	0.4	0.5

1. As a result of the transfer of responsibility for health services from the federal government to the Territories, there is a structural break in these series.

- Within the provincial-local sector, the responsibility for health is mostly assumed by provincial administrations.
- Local administrations provide a significant share of health services in Alberta, Saskatchewan, Nova Scotia, and Manitoba. Local health spending in these provinces is largely financed through provincial transfers, however.

D.3 Inter-Provincial Comparison of Health Spending Growth

Table 2.14
Growth in Provincial-Local Health Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	9.3	9.0	12.1	11.6	6.5	6.4
Prince Edward Island	10.3	9.4	13.7	13.0	6.9	6.0
Nova Scotia	10.6	10.0	12.4	11.8	8.8	8.1
New Brunswick	11.4	10.8	15.4	14.6	7.6	7.1
Québec	9.5	8.9	11.3	10.6	7.7	7.2
Ontario	11.7	10.4	11.9	10.9	11.4	9.9
Manitoba	10.7	10.2	13.9	13.6	7.6	6.9
Saskatchewan	11.4	10.6	17.2	16.0	5.9	5.4
Alberta	11.9	9.5	18.4	14.1	5.8	5.1
British Columbia	11.7	9.9	16.9	14.7	6.6	5.2
Yukon	12.7	11.3	21.7	19.7	4.5	3.6
Northwest Territories[1]	18.4	16.2	19.5	17.1	17.3	15.3
Total	11.0	9.9	13.4	12.2	8.7	7.7

1. As a result of the transfer of responsibility for health services from the federal government to the Territories, there is a structural break in these series.

- Significant differences are observed in the growth of health spending across provinces. Over the 1975-76 to 1989-90 period, Québec recorded the slowest per capita growth in health spending (8.9 per cent) while New Brunswick had the highest (10.8 per cent).

- Over the 1975-76 to 1982-83 period, all provinces recorded per capita growth in health spending in excess of 10 per cent. Saskatchewan showed the fastest growth over this period at 16.0 per cent.

- In the remainder of the 1980s, Western provinces showed the lowest per capita growth in health spending; Saskatchewan, Alberta and British Columbia posted per capita growth rates of between 5 and 6 per cent compared to an all-province average of 7.7 per cent. The fastest growth per capita was recorded in Ontario (9.9 per cent) and Nova Scotia (8.1 per cent).

E. *EDUCATION SPENDING*

E.1 The Structure of Provincial-Local Education Spending

Table 2.15
Provincial-Local Government Education Spending -- FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share of Programs	% of GDP	Share of Programs	% of GDP	Share of Programs
Newfoundland	11.0	26.0	9.8	27.5	9.1	26.3
Prince Edward Island	11.5	26.0	10.0	26.7	7.8	23.6
Nova Scotia	8.5	26.8	8.3	26.7	7.6	26.8
New Brunswick	9.1	27.0	8.7	25.4	6.5	23.6
Québec	7.1	26.8	7.4	25.4	5.5	22.1
Ontario	5.4	26.6	5.5	26.7	4.9	25.0
Manitoba	6.9	27.8	5.9	24.2	5.5	22.1
Saskatchewan	5.4	23.6	5.7	22.5	5.5	21.1
Alberta	5.0	25.2	5.1	19.1	5.2	20.9
British Columbia	5.6	22.9	5.3	21.5	4.0	19.7
Yukon	7.7	18.5	7.6	20.0	8.1	19.4
Northwest Territories	8.3	20.6	8.8	18.7	8.7	15.7
Total	6.1	26.0	6.1	24.3	5.2	22.9

- The share of total provincial-local program spending represented for by education has declined noticeably over the last 15 years.
- All jurisdictions, with the exception of Alberta, Saskatchewan, and the Territories, recorded a decline in education spending as a proportion of GDP over the 1975-76 to 1989-90 period. The largest declines were posted by three of the Atlantic provinces: Prince Edward Island (3.7 percentage points), New Brunswick (2.6 percentage points), and Newfoundland (1.9 percentage points).
- Between 1982-83 and 1989-90, all jurisdictions except Alberta and the Yukon showed a decline in education spending as a proportion of GDP largely reflecting the participation of the last "baby boomers" to the labour market.

E.2 Provincial and Local Education Spending

Table 2.16
Disaggregation of Provincial-Local Education Spending -- FMS Basis
(per cent of GDP)

	Provincial Direct		Specific Transfers		Local	
	1975-76	1989-90	1975-76	1989-90	1975-76	1989-90
Newfoundland	10.8	8.7	-	-	0.2	0.4
Prince Edward Island	5.1	2.9	6.4	5.0	6.4	5.1
Nova Scotia	3.2	2.2	3.6	3.8	5.5	5.3
New Brunswick	9.1	6.5	-	-	-	-
Québec	2.4	2.1	3.6	3.3	4.6	3.5
Ontario	1.6	1.3	2.3	1.6	3.8	3.5
Manitoba	2.3	1.4	2.1	2.9	4.6	4.0
Saskatchewan	1.6	1.1	2.2	2.8	3.8	4.3
Alberta	1.9	2.2	2.3	1.8	3.1	3.1
British Columbia	1.5	1.3	1.9	2.1	4.4	3.8
Yukon	7.7	8.1	-	-	-	-
Northwest Territories	7.4	7.8	-	-	-	-
Total	2.2	1.8	2.5	2.2	3.9	3.4

- With the exception of Newfoundland, New Brunswick, and the Territories, education is largely provided by local governments. However, with the exception of Ontario, provincial transfers account for over half of the financing of education spending by local school boards.

- Between 1975-76 and 1989-90, only Newfoundland and Saskatchewan showed an increase in education spending as a proportion of GDP at the local government level.

E.3 Inter-provincial Comparison of Education Spending Growth

Table 2.17
Growth in Provincial-Local Education Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	8.5	8.2	10.6	10.1	6.4	6.3
Prince Edward Island	7.6	6.8	10.2	9.5	5.0	4.1
Nova Scotia	9.7	9.0	11.3	10.7	8.1	7.4
New Brunswick	7.9	7.3	10.6	9.8	5.3	4.8
Québec	7.9	7.3	11.9	11.2	3.9	3.4
Ontario	9.6	8.4	10.7	9.7	8.6	7.1
Manitoba	7.2	6.7	8.2	7.9	6.3	6.5
Saskatchewan	7.8	7.0	12.4	11.2	3.4	2.9
Alberta	9.8	7.4	16.5	12.2	3.5	2.8
British Columbia	7.6	5.8	12.2	10.1	3.1	1.8
Yukon	12.5	11.1	14.0	12.1	11.0	10.1
Northwest Territories	12.2	10.1	14.6	12.4	9.7	7.9
Total	8.7	7.6	11.8	10.5	5.8	4.8

- Over the 1975-76 to 1989-90 period, the Territories and Nova Scotia recorded the highest per capita growth in education spending while British Columbia recorded the lowest (5.8 per cent); the all-province average was 7.6 per cent.
- Over the 1975-76 to 1982-83 period, all the jurisdictions except Manitoba showed a strong growth in per capita education spending. The Northwest Territories (12.4 per cent) and Alberta (12.2 per cent) recorded the fastest growth over the period.
- The most dramatic slowing in the growth of per capital education spending growth per capita occurred in the three westernmost provinces with growth rates declining from the 10-12-per-cent range over the 1975-76 to 1982-83 period to the 2-3-per-cent range after 1982-83.

F. *SOCIAL SERVICES SPENDING*

F.1 The Structure of Provincial-Local Social Services Spending

Table 2.18
Provincial-Local Social Services Spending by Province – FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share of Programs	% of GDP	Share of Programs	% of GDP	Share of Programs
Newfoundland	4.0	9.6	4.3	12.2	4.5	12.9
Prince Edward Island	4.6	10.4	4.7	12.5	4.1	12.5
Nova Scotia	3.1	9.7	3.7	12.1	3.7	13.2
New Brunswick	4.4	13.0	4.8	14.0	4.1	14.9
Québec	3.2	12.2	4.7	16.3	4.1	16.3
Ontario	2.7	13.1	2.7	13.3	3.1	15.9
Manitoba	3.1	12.6	3.3	13.3	4.1	16.4
Saskatchewan	2.5	10.9	3.8	14.9	2.5	9.8
Alberta	1.7	8.5	2.1	7.9	3.1	12.3
British Columbia	3.5	14.2	3.4	14.1	3.0	15.0
Yukon	3.4	8.3	3.3	8.6	2.1	5.0
Northwest Territories	2.2	5.5	3.0	6.4	4.4	7.9
Total	2.8	12.2	3.3	13.4	3.4	15.0

- With the exception of Prince Edward Island, New Brunswick, Saskatchewan, and British Columbia, all other provinces experienced an increase in social services spending as a proportion of GDP between 1975-76 and 1989-90. Over the same period, all provinces except Saskatchewan showed an increase in their share of social services spending in program spending.

- The largest increase in social services spending, as a proportion of GDP, over the last 15 years was recorded in Alberta (1.4 percentage points), while the largest declines were in Prince Edward Island and British Columbia (0.5 percentage points).

- In 1989-90, Manitoba and Québec allocated the largest share of their program spending to social services (16.4 and 16.3 per cent respectively) while Saskatchewan and Alberta allocated the smallest share (9.8 and 12.3 per cent respectively). The all-province average stood at 15.0 per cent.

F.2 Provincial and Local Social Services Spending

Table 2.19
Disaggregation of Provincial-Local Social Services Spending -- FMS Basis
(per cent of GDP)

	Provincial Direct		Specific Transfers		Local	
	1975-76	1989-90	1975-76	1989-90	1975-76	1989-90
Newfoundland	4.0	4.5	-	-	-	-
Prince Edward Island	4.6	4.1	-	-	-	-
Nova Scotia	2.2	2.2	0.4	0.7	0.9	1.6
New Brunswick	4.4	4.1	-	-	-	-
Québec	3.2	4.0	0.0	0.0	0.0	0.0
Ontario	2.1	2.4	0.2	0.4	0.6	0.7
Manitoba	3.0	3.8	0.1	0.2	0.1	0.2
Saskatchewan	2.4	2.5	0.0	0.0	0.1	0.1
Alberta	1.6	3.0	0.1	0.0	0.1	0.1
British Columbia	3.3	3.0	0.2	0.0	0.3	0.0
Yukon	3.4	2.1	-	-	-	-
Northwest Territories	2.2	4.3	-	-	0.0	0.1
Total	2.6	3.0	0.1	0.2	0.3	0.4

- Social services spending are mostly the responsibility of provincial administrations.
- Over the 1975-76 to 1989-90 period, a relatively large increase in social services spending as a proportion of GDP was observed in Québec, Manitoba, and Alberta.
- Local government involvement in the delivery of social services is relatively important in Nova Scotia, although almost 50 per cent was financed through provincial transfers in 1989-90. Local involvement is also somewhat important in Ontario.

F.3 Inter-Provincial Comparison of Social Services Spending Growth

Table 2.20
Growth in Provincial-Local Social Services Spending -- FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	10.7	10.4	13.6	13.1	8.0	7.9
Prince Edward Island	9.7	8.9	12.7	12.0	6.9	5.9
Nova Scotia	11.4	10.8	15.4	14.8	7.6	6.9
New Brunswick	10.0	9.4	12.6	11.8	7.4	6.9
Québec	11.6	11.0	17.5	16.8	6.0	5.4
Ontario	12.1	10.9	12.5	11.5	11.8	10.3
Manitoba	11.0	10.5	11.1	10.8	10.9	10.1
Saskatchewan	7.8	7.0	18.4	17.1	-1.8	-2.2
Alberta	14.3	11.8	20.0	15.5	8.9	8.2
British Columbia	9.0	7.2	12.9	10.8	5.2	3.8
Yukon	8.2	6.9	11.4	9.6	5.1	4.2
Northwest Territories	17.1	14.9	18.0	15.7	16.1	14.2
Total	11.5	10.3	14.9	13.6	8.1	7.1

- Growth in per capita spending in social services showed significant differences across provinces over the 1975-76 to 1989-90 period, ranging from 7.0 per cent in Saskatchewan to 11.8 per cent in Alberta.
- Between 1975-76 and 1982-83, all provinces recorded per capita growth in social services in excess of 10 per cent reflecting rapid increases in prices and the impact of the 1981-1982 recession. The province of Saskatchewan recorded the fastest growth over this period at 17.1 per cent.
- Since 1982-83, all provinces have shown much weaker per capita growth in social services spending. In absolute terms, the province of Saskatchewan recorded a decline in per capita spending in this area.

G. *PUBLIC DEBT CHARGES*

G.1 The Structure of Provincial-Local Public Debt Charges Spending

Table 2.21
Provincial-Local Debt Charges Spending by Province – FMS Basis
(per cent)

	1975-76		1982-83		1989-90	
	% of GDP	Share	% of GDP	Share	% of GDP	Share
Newfoundland	4.9	10.4	6.2	15.0	7.3	17.3
Prince Edward Island	3.3	7.0	4.5	10.8	4.4	11.6
Nova Scotia	2.9	8.3	4.8	13.4	4.0	12.4
New Brunswick	2.3	6.3	4.2	10.9	4.0	12.7
Québec	1.9	6.8	3.9	11.9	3.7	13.0
Ontario	2.0	9.1	2.4	10.5	2.1	9.6
excl Govt Entr.	1.8	8.1	2.0	8.5	1.7	8.0
Manitoba	1.7	6.3	3.9	13.7	5.8	19.1
excl Govt Entr.	1.1	4.2	2.9	10.1	4.3	14.2
Saskatchewan	1.3	4.9	3.5	12.1	6.0	18.8
excl Govt Entr.	0.4	1.8	1.5	5.1	4.1	10.9
Alberta	0.8	4.0	1.1	4.0	2.4	8.6
British Columbia	0.6	2.6	1.2	4.5	2.6	11.4
Yukon	0.9	3.2	1.0	2.5	0.1	0.3
Northwest Territories	0.4	0.9	0.3	0.6	0.3	0.5
Total	1.7	6.9	2.6	9.6	3.0	11.6
excl Govt Entr.	1.6	6.4	2.4	8.6	2.6	10.3

- Before comparing data on public debt charges across provinces, it is important to note that such comparisons are distorted by differences across jurisdictions in borrowing undertaken by governments on behalf of Crown Corporations. This phenomenon is important in three provinces: Saskatchewan, Manitoba, and Ontario.

- Debt charges at the provincial-local sector, as a proportion of GDP, have not been as important as at the federal level, although they have taken an increasing share in the last 15 years.

- Relative to GDP, all provinces showed constant or increased spending on debt charges between 1975-76 and 1989-90. As a share of total spending, all provinces recorded a rise in spending on debt charges over the same period.

- In 1975-76, the share of debt charges in total spending was more than 10.0 per cent in Newfoundland, followed by Ontario at 9.1 per cent. In 1989-90, almost 20 per cent of total spending in Manitoba was accounted for by public debt charges, although a significant portion of this percentage represented borrowing incurred by provincial governments for their Crown Corporations.

G.2 Provincial and Local Debt Charges Spending

Table 2.22
Disaggregation of Provincial-Local Debt Charges Spending – FMS Basis
(per cent of GDP)

	Provincial Gross		Local Gross		Inter-governmental Transactions	
	1975-76	1989-90	1975-76	1989-90	1975-76	1989-90
Newfoundland	4.8	7.0	0.4	0.7	0.3	0.4
Prince Edward Island	2.8	4.2	0.6	0.4	0.0	0.2
Nova Scotia	3.4	3.9	0.5	0.3	0.1	0.2
New Brunswick	3.0	3.8	0.3	0.3	0.1	0.1
Québec	1.1	2.9	0.8	0.9	0.0	0.0
Ontario	1.7	1.9	0.4	0.2	0.1	0.0
Manitoba	1.4	5.4	0.6	0.5	0.3	0.1
Saskatchewan	0.9	5.7	0.3	0.4	0.0	0.1
Alberta	0.7	2.3	0.5	1.1	0.4	1.0
British Columbia	0.3	3.3	0.6	0.7	0.3	0.3
Yukon	0.8	0.1	0.1	0.1	0.0	0.1
Northwest Territories	0.2	0.3	0.2	0.1	0.0	0.1
Total	1.3	2.6	0.6	0.5	0.1	0.2

- There is a number of inter-governmental transactions between provincial and local governments related to public debt charges. On one hand, provincial government contribute to the financing of local investment projects by subsidizing the related interest charges on local borrowing. On the other hand, local governments may borrow from provincial special funds to finance specific activities.

- All provinces recorded an increase in gross debt charges as a proportion of GDP over the 1975-76 to 1989-90 period, with the largest increases recorded in Saskatchewan (4.8 percentage points) and Manitoba (4.0 percentage points). As noted before, these provinces borrow on behalf of Crown Corporations

- Local administrations in Newfoundland and Alberta showed relatively important increases in their debt charge ratio between 1975-76 and 1989-90.

G.3 Inter-Provincial Comparison of Debt Charges Spending Growth

Table 2.23
Growth in Provincial-Local Debt Charges Spending – FMS Basis
(per cent)

	1975-76 to 1989-90		1975-76 to 1982-83		1982-83 to 1989-90	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	13.1	12.8	16.5	15.9	9.8	9.7
Prince Edward Island	12.8	11.9	17.5	16.8	8.3	7.3
Nova Scotia	13.2	12.6	20.2	19.5	6.7	6.0
New Brunswick	15.1	14.5	21.5	20.7	9.1	8.6
Québec	15.1	14.4	23.1	23.3	7.6	7.1
Ontario	10.5	9.3	13.1	12.1	8.0	6.6
excl. Govt. Entr.	10.0	8.7	10.0	9.2	9.9	8.1
Manitoba	19.3	18.7	24.8	24.4	14.0	13.3
excl. Govt. Entr.	20.2	19.6	23.6	23.7	16.7	15.7
Saskatchewan	20.9	20.0	30.1	28.7	12.3	11.8
excl. Govt. Entr.	26.3	25.3	27.9	26.7	24.1	23.4
Alberta	18.0	15.4	21.2	16.8	14.8	14.1
British Columbia	21.8	19.8	23.1	20.7	20.5	18.9
Yukon	-3.4	-3.6	14.7	12.9	-16.9	-17.6
Northwest Territories	9.6	7.6	9.4	7.2	9.9	8.0
Total	14.3	13.1	18.8	17.4	9.9	8.9
excl Govt Entr.	14.0	12.8	15.8	14.7	11.6	10.4

- Abstracting from provincial borrowing on behalf of Crown Corporations, the growth in per capita spending on public debt charges averaged 12.8 per cent for the total provincial-local sector over the 1975-76 to 1989-90 period. With the exception of the Territories, Ontario recorded the smallest growth (8.7 per cent) while Saskatchewan recorded the highest (25.3 per cent).

- Since 1982-83, growth in per capita spending on debt charges has declined significantly in all jurisdictions compared to the 1975-76 to 1982-83 period. The most important decline occurred in Québec (15.2 percentage points) while the least important occurred in British Columbia (1.8 percentage points).

H. *WAGES AND SALARIES*

H.1 Inter-Provincial Comparison of Wages and Salaries Spending Growth

Table 2.24
Growth in Provincial-Local Wages and Salaries[1] -- CIEA Basis
(per cent)

	1975 to 1989		1975 to 1983		1983 to 1989	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	9.6	9.3	11.3	10.7	7.4	7.4
Prince Edward Island	9.9	9.1	12.9	12.2	6.0	5.1
Nova Scotia	9.7	9.1	12.3	11.7	6.4	5.8
New Brunswick	9.6	9.0	12.1	11.3	6.3	5.9
Québec	8.6	7.9	11.3	10.7	5.0	4.4
Ontario	9.6	8.3	10.8	9.8	7.9	6.4
Manitoba	9.7	9.2	12.1	11.7	6.6	5.9
Saskatchewan	9.2	8.4	13.3	12.1	4.0	3.7
Alberta	10.2	7.8	15.7	11.8	3.3	2.7
British Columbia	8.1	6.4	11.1	9.1	4.2	2.8
Yukon	13.9	12.4	14.7	13.6	12.9	10.8
Northwest Territories	11.8	9.9	11.0	8.7	12.9	11.4
Total	9.2	8.1	11.8	10.5	6.0	5.0

1. Excluding supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Over the 1975-1989 period, only the Yukon showed a per capita growth rate in wages and salaries exceeding 10 per cent. All provinces and the Northwest Territories experienced per capita growth rates ranging from 7.8 to 9.9 per cent.
- Between 1975 and 1983, most jurisdictions experienced an annual growth in per capita spending on wages and salaries in excess of 10 per cent. The Yukon (13.6 per cent) and Prince Edward Island (12.2 per cent) recorded the fastest increases.
- Since 1983, the growth in per capita spending on wages and salaries slowed markedly in all jurisdictions except both territories.

H.2 Inter-Provincial Comparison of Employment Growth

Table 2.25
Provincial-Local-Hospital Sector Employment[1]

	1983 ('000)	1989 ('000)	annual average growth (%)
Newfoundland	18.6	22.9	3.5
Prince Edward Island[2]	4.7	5.1	1.4
Nova Scotia	30.8	34.2	1.8
New Brunswick	23.6	26.0	1.6
Québec	256.5	281.9	1.6
Ontario	283.6	324.8	2.3
Manitoba	36.9	41.1	1.8
Saskatchewan	38.0	39.1	0.5
Alberta	104.9	114.9	1.5
British Columbia	90.3	99.6	1.6
Yukon	1.4	2.0	6.1
Northwest Territories[3]	3.9	5.1	4.6
Total	893.1	996.4	1.8

1. No figures are available prior to 1983.

2. Growth in PLH employment in PEI is an estimate since hospitals' employment levels are confidential after 1985.

3. Employment levels in Northwest Territories are measured residually.

Source: Statistics Canada, Employment, earnings and hours, cat 72-002.

- It is important to note that there are no consistent data on PLH sector employment prior to 1983. Further, figures reported above comprise employment for all hospitals in Canada -- not only provincial public hospitals. Although the levels reported are then biased upward, growth rates should be accurate as provincial public hospitals account for the vast majority of hospitals in Canada.

- Over the 1983-1989 period, the overall PLH sector employment level increased at an average annual rate of 1.8 per cent. Among the provinces, the slowest average annual growth in employment was recorded in Saskatchewan (0.5 per cent) while Newfoundland and Ontario recorded the fastest average annual increases at 3.5 and 2.3 per cent respectively.

- Contrary to the situation at the federal level, the growth in employment contributed to the growth in wages and salaries at the PLH government level, reflecting pressures to provide more services.

I. *NON-WAGE GOODS AND SERVICES*

I.1 Inter-Provincial Comparison of Non-wage Goods and Services Spending Growth

Table 2.26
Growth in Provincial-Local Non-wage Goods and Services[1] -- CIEA Basis
(per cent)

	1975 to 1989		1975 to 1983		1983 to 1989	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	11.8	11.5	20.1	19.5	1.6	1.6
Prince Edward Island	5.9	5.1	8.6	7.9	2.3	1.5
Nova Scotia	9.0	8.3	11.0	10.3	6.4	5.8
New Brunswick	10.6	10.0	14.1	13.4	6.0	5.7
Québec	11.7	11.0	15.4	14.7	6.9	6.3
Ontario	10.6	9.3	12.0	10.9	8.8	7.2
Manitoba	9.2	8.7	11.3	10.8	6.6	5.9
Saskatchewan	8.9	8.1	11.2	10.0	5.9	5.6
Alberta	14.2	11.7	20.2	16.2	6.6	5.9
British Columbia	11.4	9.7	18.1	16.0	3.1	1.8
Yukon	11.1	9.7	12.7	11.7	9.0	7.0
Northwest Territories	9.8	7.9	16.7	14.3	1.2	-0.1
Total	11.2	10.1	14.4	13.1	7.1	6.1

1. Including supplementary labour income (employers' contributions to pension funds, employee welfare funds, unemployment insurance, and workers' compensation).

- Growth in per capita spending on non-wage goods and services showed wide differences across provinces. Over the 1975-1989 period, growth exceeding the all-province average (10.1 per cent) was recorded in Alberta, Newfoundland and Québec while the smallest growth was observed in Prince Edward Island (5.1 per cent).

- Between 1975 and 1983, per capita spending on non-wage goods and services grew rapidly in all provinces with the highest rates being observed in Newfoundland, Alberta and British Columbia. Only Prince Edward Island recorded an average annual growth smaller than 10 per cent over this period.

- Since 1983, all provinces have experienced a significant decline in their respective per capita growth in non-wage goods and services spending. Newfoundland and British Columbia recorded the largest declines. Ontario posted the fastest growth rate at 7.2 per cent over this period while the Northwest Territories experienced an absolute decline.

J. *TRANSFERS TO PERSONS*

J.1 Inter-Provincial Comparison of Transfers to Persons Spending Growth

Table 2.27
Growth in Provincial-Local Transfers to Persons -- CIEA Basis
(per cent)

	1975 to 1989		1975 to 1983		1983 to 1989	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	9.4	9.1	12.7	12.2	5.1	5.1
Prince Edward Island	11.5	10.7	14.5	13.7	7.7	6.9
Nova Scotia	9.6	9.0	11.4	10.8	7.2	6.6
New Brunswick	10.5	9.9	12.5	11.7	7.8	7.4
Québec	11.5	10.9	16.1	15.4	5.7	5.1
Ontario	11.5	10.2	12.1	11.1	10.7	9.2
Manitoba	9.8	9.2	10.8	10.3	8.5	7.8
Saskatchewan	10.9	10.1	17.8	16.5	2.4	2.1
Alberta	14.2	11.7	22.3	18.1	4.3	3.7
British Columbia	10.4	8.6	13.4	11.4	6.5	5.1
Yukon	11.0	9.6	17.6	16.6	2.8	1.0
Northwest Territories	17.0	14.9	21.2	18.7	11.6	10.2
Total	11.4	10.3	14.7	13.5	7.1	6.1

- Over the 1975-1989 period, the fastest growth in per capita transfers to persons was recorded in Alberta (11.7 per cent) while the slowest was posted by British Columbia (8.6 per cent).

- Between 1975 and 1983, the all-province per capita transfers to persons grew at an average annual rate of 13.5 per cent. Manitoba recorded the slowest growth at 10.3 per cent while Northwest Territories and Alberta recorded the fastest growth at 18.7 and 18.1 per cent, respectively.

- Since 1983, growth in per capita transfers to persons have slowed in all jurisdictions with the most significant declines occurring in the Yukon, Saskatchewan and Alberta while Northwest Territories, Ontario, and Manitoba recorded respectively the fastest average annual growth.

K. *TRANSFERS TO BUSINESS*

K.1 Inter-Provincial Comparison of Transfers to Business Spending Growth

Table 2.28
Growth in Provincial-Local Transfers to Business -- CIEA Basis
(per cent)

	1975 to 1989		1975 to 1983		1983 to 1989	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	6.7	6.4	3.9	3.4	10.6	10.6
Prince Edward Island	15.6	14.7	7.6	6.9	27.1	26.1
Nova Scotia	11.5	10.9	21.2	20.5	-0.1	-0.7
New Brunswick	11.2	10.6	16.0	15.2	5.1	4.7
Québec	18.0	17.3	27.7	27.0	6.1	5.5
Ontario	10.5	9.2	11.6	10.6	9.0	7.4
Manitoba	11.1	10.6	14.8	14.3	6.4	5.7
Saskatchewan	13.0	12.2	8.9	7.7	18.8	18.5
Alberta	16.1	13.6	36.5	31.9	-6.4	-6.9
British Columbia	11.6	9.9	17.3	15.2	4.5	3.1
Yukon	6.8	5.4	5.2	4.2	8.9	6.9
Northwest Territories	15.1	13.1	16.8	14.3	12.9	11.4
Total	13.9	12.7	21.8	20.5	4.2	3.2

- The growth in per capita transfers to business differed significantly across provinces between 1975 and 1989. The fastest growth occurred in Québec at 17.3 per cent while the slowest was recorded in the Yukon (5.4 per cent).

- Between 1975 and 1983, differences in growth rates were particularly pronounced. The strongest increase was recorded in Alberta (31.9 per cent) and the weakest in Newfoundland (3.4 per cent). Both Québec and Nova Scotia experienced an annual growth in per capita transfers to business in excess of 20 per cent. In most other provinces, the annual per capita growth remained between 10 and 20 per cent.

- Since 1983, some provinces experienced rapid growth in their per capita transfers to business but most of them have registered a significant slowdown. Rapid growth was recorded in Prince Edward Island, Saskatchewan, Northwest Territories, and Newfoundland. In all other provinces, growth was significantly reduced. Absolute declines were observed in Alberta and Nova Scotia.

L. *CAPITAL FORMATION*

L.1 Inter-Provincial Comparison of Capital Formation Spending Growth

Table 2.29
Growth in Provincial-Local Capital Formation -- CIEA Basis
(per cent)

	1975 to 1989		1975 to 1983		1983 to 1989	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	3.0	2.8	0.3	-0.2	6.8	6.8
Prince Edward Island	5.8	5.0	-4.0	-4.7	20.4	19.4
Nova Scotia	7.0	6.4	2.9	2.4	12.8	12.1
New Brunswick	4.4	3.8	4.3	3.6	4.5	4.1
Québec	5.8	5.1	3.3	2.7	9.1	8.5
Ontario	6.9	5.7	5.0	4.0	9.6	8.0
Manitoba	7.5	6.9	7.1	6.7	7.9	7.2
Saskatchewan	7.3	6.5	6.6	5.5	8.2	7.9
Alberta	8.3	5.9	17.3	13.3	-2.6	-3.2
British Columbia	7.9	6.1	7.9	5.9	7.8	6.4
Yukon	15.0	13.6	18.8	17.7	10.2	8.3
Northwest Territories	11.0	9.1	2.2	0.0	24.0	22.4
Total	6.8	5.7	6.8	5.7	6.8	5.8

- With the exception of both territories, per capita spending grew moderately in all jurisdictions between 1975 and 1989. Newfoundland recorded the slowest growth in per capita capital spending at 2.8 per cent. The Yukon and Northwest Territories experienced the fastest growth at 13.6 and 9.1 per cent respectively. The all-province/territory growth rate averaged 5.7 per cent over this period.

- Between 1975 and 1983, Newfoundland and Prince Edward Island recorded an absolute decline in their per capita capital spending while the Yukon and Alberta experienced the fastest growth.

- Since 1983, per capita capital spending has declined in absolute terms in Alberta. In all other jurisdictions (except the Yukon), it grew at a faster rate than over the 1975 to 1983 period.

L.2 Inter-Provincial Comparison of Capital Accumulation

Table 2.30
Characteristics of Provincial-Local-Hospital Capital Formation
National Balance Sheet Basis
(per cent)

	1975			1989		
	Gross Invest.	Net Capital Stock		Gross Invest.	Net Capital Stock	
	per cent of GDP	per cent of GDP	Average Age	per cent of GDP	per cent of GDP	Average Age
Newfoundland	8.5	88.7	13.0	3.4	72.2	17.5
Prince Edward Island	6.9	100.5	15.3	3.7	73.0	19.0
Nova Scotia	4.4	67.7	14.1	2.8	47.3	18.1
New Brunswick	6.6	81.2	14.0	3.0	68.7	16.6
Québec	3.4	50.1	13.2	2.0	40.7	17.5
Ontario	2.4	41.0	14.1	1.5	27.4	18.2
Manitoba	2.3	54.1	14.9	1.9	41.4	19.1
Saskatchewan	3.5	56.5	14.5	3.3	61.0	17.5
Alberta	3.2	45.5	14.8	2.7	54.6	14.8
British Columbia	2.9	42.7	14.1	2.1	34.3	17.0
Yukon	6.3	81.1	5.1	9.0	100.0	7.7
Northwest Territories	7.5	71.8	16.3	6.9	81.8	15.1
Total PLH	3.0	47.2	13.9	2.0	37.9	17.2
Memorandum:						
Total Federal	0.6	11.9	20.6	0.3	6.9	20.5

- Over the last 15 years, PLH net capital stock relative to GDP declined almost 10 percentage points to 37.9 per cent. Over the same period, PLH capital spending also declined from 3 to 2 per cent of GDP. As a result, the average age of the PLH sector net capital stock increased from 13.9 years in 1975 to 17.2 years in 1989.

- Net capital stock declined, as a proportion of GAP, in almost all provinces between 1975 and 1989. Only two provinces -- Alberta and Saskatchewan -- and both territories recorded an increase in this proportion over this period.

- Similarly, at the federal level, the net capital stock declined from 11.9 per cent of GDP in 1975 to 6.9 per cent in 1989. Over the same period, the gross investment declined from 0.6 to 0.3 per cent of GDP.

2.3 Annex: A brief Description of Financial Management System (FMS) Spending Functions

The purpose of this annex is to briefly define the spending functions used in the core of the study.

1. General Services

This function pertains to activities of the executive, the legislative and the centralized operations of governments. More specifically, it includes a number of sub-functions:

- **Executive and legislative**: covers outlays related to political and law enactment, the Governor General, the Lieutenant Governor, the Prime Minister, the premiers, members of Parliament, members of legislative assemblies, maintenance of legislatures, etc.
- **Administrative**: comprises all spending on administration that cannot be allocated to a more specific sub-function.
- **Contributions to employee pension plans**: accounts for government contributions as an employer to employee's pension plans.
- **Other**: includes outlays on general insurance, inter-government services, conventions, etc.

2. Protection of Persons and Property

This function pertains to all services which ensure the security of persons and property against negligence, exploitation and abuse.

- **National defence (federal government only)**: which covers outlays on the armed forces, military bases, installations, military colleges, etc.
- **Courts of law**: encompasses outlays on all aspects of the judicial system from the Supreme Court to Family Court, from prosecutors to jurors.
- **Correction and rehabilitation**: accounts for spending on all penitentiaries, jails, and other detention establishments, as well as probation services.

- **Policing**: covers spending pertaining to the maintenance of law and order by police personnel; spending on forensic science are also included.

- **Firefighting**: includes outlays on prevention, investigation, and extinguishing fires.

- **Regulatory measures**: encompasses spending on a variety of services provided to protect the individual or a group of individuals and property against negligence, exploitation, and abuse.

- **Other**: covers outlays for special measures taken to handle emergency situations and for permanent organizations established to deal with such contingencies.

3. Transportation and Communications

This function pertains to outlays for all phases of the acquisition, construction, operation and maintenance of transportation and communication facilities and equipment as well as spending pertaining to related engineering and technical surveys.

- **Air**: encompasses outlays for international and inter-provincial air travel such as air traffic and other related services, as well as the costs involved in operating subsidy payments to regional air carriers and municipal airports.

- **Roads**: covers spending on highways, secondary roads, boulevards, avenues, bridges, over and underpasses, tunnels, ferries, insofar as they are operated by the highway department, and on maintenance such as removal of snow and other debris on roads.

- **Rail**: includes outlays on research, improvement and implementation of policies and programs, as well as subsidy payments to passenger service infrastructure, and freight assistance in certain geographical regions.

- **Water**: encompasses spending on navigational channels, canals, harbours, wharfs, ferries, the Coast Guard, and some northern transportation services.

- **Telecommunications**: includes outlays on research, planning and development of telecommunication requirements; spending on the Canadian Radio-television and Telecommunications Commission, and other communication systems.

- **Other**: covers residual spending on transportation and communication which cannot be identified as belonging to any particular sub-function.

4. Health

This function pertains to the promotion of well-being through hospital and medical care schemes which not only provide universal health insurance but also supervise the delivery of hospital and medical care.

- **Hospital care**: encompasses spending on all types of hospital services in both general and specialized hospitals. Transfers to private hospitals are also covered in this sub-function.

- **Medical care**: covers outlays on general medical care programs including dental, drugs, and out-patient services.

- **Preventive care**: provides for spending on the prevention of diseases and the mitigation of their effects. Included in this sub-function are spending on public health clinics, communicable disease control, health inspection services, nutrition and hygiene programs, and research.

- **Other**: covers outlays on certain rehabilitation programs, health department administration, collection of health statistics, clinics treating the mentally retarded, grants to health organizations, etc.

5. Education

This function relates to the development, the improvement, and the operation of educational systems and the provision of specific educational services.

- **Elementary and secondary education**: covers outlays on kindergarten to senior matriculation including technical and vocational training given at these levels, native schools, schools for the handicapped, and expenses on general administration, equipment and supplies, registry of teachers, and the construction of buildings.

- **Postsecondary education**: includes outlays on universities, other postsecondary institutions, bursaries, and scholarships.

- **Special retraining service**: covers outlays made for the purpose of up grading the skills of individuals. One of the main items is the cost of courses founded under the federal manpower training program.

- **Other**: accounts for spending on the general administration of the education departments, research activities related to education, the teacher's apprenticeship training program, language training, etc.

6. Social Services

This function pertains to government activities aiming at the improvement of the quality of life for needy persons. Social services have two sub-functions, social welfare and social security, which are further subdivided as follows:

i) Social welfare

- **Social welfare assistance**: covers outlays on general assistance programs such as those for the aged, the unemployed, needy persons, the blind, and the disabled.

- **Social welfare services**: includes outlays related to welfare agencies and the provision of services to the elderly and children, legal aid, homes for the elderly, etc.

- **Tax credits and rebates**: they are used to offset taxation on certain classes of taxpayers or as income supplements.

- **Other**: includes administrative and other spending which cannot be classified in the above three categories.

ii) Social security

- **Contributory plans**: covers outlays pertaining to plans such as the Canada Pension Plan and the Québec Pension Plan.

- **Non-contributory plans**: includes spending related to plans such as Old Age Security.

- **Labour force plans**: accounts for outlays related to unemployment insurance and workers' compensation schemes.

- **Family allowances**: represent payments made under the federal government Family Allowance Program and the supplementary family allowance payments made by the province of Québec.

- **Veterans' benefits**: encompasses all outlays related to veteran's services including administrative costs, pensions, and grants.

7. Resources Conservation and Industrial Development

This function pertains to the conservation and development of natural resources and the development and promotion of the processing and manufacturing or service and tourism industries.

- **Agriculture**: includes current and capital spending related to program costs, direct services and support for agricultural research.

- **Fish and game**: covers spending on research in fish and wildlife pathology, control and regulation of fishing and hunting activities, and subsidies and bonuses to commercial fishermen and hunters.

- **Forests**: provides for outlays on the inspection and survey of fire control, forest resources and ranging, as well as research pertaining to tree diseases, reforestation, marketing of forest products, and grants.

- **Mines, oil and gas**: includes outlays pertaining to the control, regulation, construction, and promotion of mining, oil and gas exploration and development, survey and research, mineral testing and assaying, etc.

- **Tourism**: encompasses outlays on tourist bureaus, camping sites, and the promotion of tourism and convention facilities.

- **Trade and industry**: includes spending on the promotion, protection, and development of general industrial and commercial activities. Outlays on relevant departments and agencies and grants and subsidies. Also included is spending of the Corporate Affairs Branch of the federal Department of Consumer and Corporate Affairs, the Tariff Board, and the Foreign Investment Review Agency. At the

provincial level the registry of companies, corporate affairs, et cetera, are included as well as spending on industrial parks and assistance to industrial development.

- **Water**: includes outlays related to the control and regulation of dams, hydraulic power installations, and flood control measures.

- **Other natural resources**: includes administrative spending of government departments whose activities are related to more than one sub-function and general outlays on resource conservation and industrial development services not classified in the preceding sub-functions.

8. Environment

Encompasses all spending pertaining to water purification and supply, sewage and waste collection and disposal, garbage collection and disposal, pollution control, and other miscellaneous related activities.

9. Culture and Recreation

This function is related to the participation of governments in the field of leisure either through developing, improving, or operating facilities or through assistance payments to individuals and private organizations engaged in promoting leisure activities.

- **Recreation**: covers outlays on stadiums, community centres, swimming pools, parks, playgrounds, etc.

- **Culture**: includes spending on archives, historic sites, art galleries, libraries, centres for the performing arts, zoos, et cetera.

- **Other**: includes administrative spending of departments and agencies whose activities fall under culture and recreation as well as spending on cinematography, amateur sport, and other miscellaneous activities.

10. Foreign Affairs and International Assistance

This function provides for spending pertaining to the formal relations of Canada with other sovereign states. It accounts for contributions made to faster economic development and to improve social

conditions in foreign lands, for example, the spending of the Canadian International Development Agency.

11. Regional Planning and Development

This function pertains to planning and zoning, community development, regional economic development, municipal affairs and commissions, boards and authorities established to plan and promote the development of particular regions.

12. Other Programs

This function includes all program spending not classified above. More specifically, it includes government spending on housing, labour, employment and immigration and research establishments. It also includes general purpose transfers to other levels of governments -- equalizations, grants in lieu of taxes, etc. -- and the transfers to own enterprises.

13. Debt Charges

The function accounts for the cost to governments of servicing the public debt, including interest, foreign exchange transactions and amortization of premiums or discounts.

3.0 Accounting for the Growth in Government Spending: A Detailed Analysis of Health, Education, and Social Services Spending.

The preceding section highlighted the important contribution of the health, education, and social services spending to the growth in total government spending over the last 15 years. This section provides a detailed examination of the socio-economic factors accounting for the growth of these three components. In each case, the analysis begins with a brief review of the major institutional arrangements in order to set an appropriate context for the analysis. Second, the structure of spending within each level of government and across levels of government is presented. Third, recent trends in the major sub-components are reviewed. Finally, specific socio-economic factors accounting for the growth in spending are identified and analyzed.

Before proceeding, a number of general remarks are in order. First, the analysis necessarily takes current institutional arrangements as given and concentrates on the rather narrow issue of the composition of program costs within these arrangements. A more comprehensive analysis would open up broader issues, such as the efficiency of current institutional arrangements, distributional considerations and so on. This is beyond the scope of the present study.

Second, the methodology used to examine the factors influencing government spending rests largely on a standard decomposition analysis of spending-to-GDP ratios into a number of underlying determinants[10]. Given limitations on data and time, it was not feasible to perform these decompositions at a level of disaggregation permitting all possible cost drivers to be taken into account. The emphasis has been on isolating a small number of aggregative factors, including age structure, utilization within age cohorts, real and nominal unit costs. Once the contributions of these aggregative factors have been identified, more specific factors are identified and analyzed with respect to their impact on the broad factors.

Third, throughout the decomposition analysis, the focus is on the spending-to-GDP ratio. This ratio will reflect changes in both components. An increase in ratio may reflect stable spending combined with a decline in GDP. In some provinces, nominal GDP is strongly influenced by the volatility of commodity prices. Also, the fact that economic activity is not always synchronized between jurisdictions may impact on inter-provincial comparisons of expenditure ratios.

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10. See annex 3.4 for an examination of some of the properties of these standard decompositions.

Finally, it is important to note that inter-provincial comparisons in the growth of government spending or in spending-to-GDP ratios must be interpreted carefully. Differences may only reflect the desire of one jurisdiction to bring its level of service into line with other jurisdictions.

3.1 Accounting for the Growth in Public Health Spending

This sub-section analyzes the factors underlying the growth in health spending in Canada since the mid-1970s. It begins with a brief summary of the key institutional developments that have taken place in the Canadian public health care system. This is followed by an examination of recent trends in public health spending at the provincial level. Finally, the last part of this section provides a detailed analysis of the determinants of spending growth in the hospital and medical care sub-sectors.

3.1.1 Historical Developments

The evolution of the health sector in the post-World War II period was characterized by the development of a comprehensive public health insurance program and of associated financing arrangements between the federal and provincial governments. Provinces have main Constitutional responsibility for the delivery of health services.

The first attempt at developing a universal health system occurred in 1945 when the federal government offered the provinces financial assistance to support the introduction of health insurance for medical, hospital, dental, nursing, and diagnostic services. This proposal, also involving the transfer of tax fields from the provinces to the federal government, was judged unacceptable, especially by the wealthiest provinces.

Although the introduction of a nation-wide health insurance system was delayed, some provinces went ahead with their own system. In 1947, Saskatchewan introduced a universal insurance program along the lines of the earlier federal proposal. Other provinces followed Saskatchewan's initiative and introduced public hospital insurance programs. By 1950, four provinces (Saskatchewan, British Columbia, Alberta, and Newfoundland) had established government hospital insurance programs.

Federal participation in the health care sector on a significant scale began in 1948 with the introduction of the National Health Grants program. This program was designed to help the provinces to improve health sector infrastructure which had been neglected during the Depression and World War ll. It provided assistance to the provinces for a variety of public health services, such as professional training and hospital construction.

In the meantime, the pressures continued to grow for the introduction of a national hospital program. The Hospital Insurance and Diagnostic Services (HIDS) Act was introduced in 1957. It supported all provinces in establishing universal, pre-paid public hospital insurance plans. It included a grant-in-aid formula whereby federal funds would be forthcoming to provinces that met the conditions of the Act. These included universal coverage, standard comprehensive services, portability and availability. The cost-sharing formula covered specific hospital services and stipulated that the federal participation was equal to the sum of 25 per cent of provincial per capita cost and of 25 per cent of national per capita cost multiplied by the number of insured persons. Under this formula, low-spending provinces recovered more than 50 per cent of their program-related costs and high-spending provinces less than 50 per cent.

Given the success of the hospital insurance program, the pressures to introduce a national medicare program mounted. Following the recommendation of the Royal Commission on Health Services, the Medical Care Act went into effect on July 1, 1968. The conditions for the federal contribution were similar to those under the hospital program: universal coverage, comprehensive service coverage, reasonable access, portability of benefits, and public administration. The financing formula differed from that of the Hospital Insurance and Diagnostic Services Act, however. All provinces received one half the national per capita program cost times its population. The effect of only including the national per capita cost was to increase the portion of expenditures covered by the federal government in low-spending provinces and to lower it in high-spending provinces. By 1971, all provinces had joined the public insurance system.

In 1977, the introduction of the Established Programs Financing (EPF) Act by the federal government signalled the termination of the open-ended/cost-sharing arrangements. Both the federal and provincial governments met partly their respective objectives with this new financing arrangement. From a provincial perspective, the new block funding system was a solution to the perceived inflexibility of administrative details of the Agreements under the Hospital Insurance Act. Further, it removed most distortions in provincial priorities in health services created by the fact that federal funds were available to subsidize only two of an increasing range of health service programs. From the federal perspective, the new arrangement alleviated the fear that the cost-sharing mechanism would add an unsustainable burden to an already deteriorating federal fiscal situation, especially in the context of rapidly growing health costs.

Under the new arrangements, federal transfers were delivered through a combination of tax and cash transfers, each representing initially about half of the total. The cash transfer was escalated annually according

to a three-year moving average of GNP increases. This was changed in 1982 to bring the growth of the whole transfer, tax plus cash, in line with a three-year moving average of GNP. With this modification, EPF transfers became equal on a per capita basis across provinces. Although national standards became conditions attached to the cash portion of federal transfers, there was no specific mechanism in the Act to implement the standards or to discourage user charges and extra-billing. In addition, the federal government introduced in 1977 a new grant of $20 per capita (to be indexed to GNP growth) to assist provinces in health services other than hospital and medical care. This so-called Extended Health Care Services program had no conditions attached to it.

With the end of controls on incomes and prices in 1978, the latter part of that year and 1979 witnessed large increases in the number of doctors engaging in extra-billing. Concerns mounted over the universality of the system and the lack of a mechanism to enforce the conditions set in the EPF Act concerning the eligibility to federal transfers became apparent. A Commission and a Task Force were established to study this problem and other developments in the health area. The work of the Commission paved the way for the Canada Health Act of 1984. The purpose of this Act was to consolidate the HIDS Act of 1957 and the Medical Care Act of 1966. It ensured that services were provided on an equal basis without regard to social, health or economic status. Five national standards were reiterated: universality, public administration, comprehensiveness, accessibility and portability. Specific sections of the Act provide for a deduction, in an equivalent amount to the extra-billing and/or user charges, from the cash payment to a province that allows these types of additional charges.

As a result of growing federal deficits and the accumulation of debt, the compensation granted to offset a previous income tax revenue guarantee was eliminated in 1982 and the growth formula of EPF transfers was reduced in a number of steps starting in 1986-87. The growth of the escalator was reduced by 2 percentage points in the 1986 federal budget and by an additional one percentage point in the 1989 budget. The Expenditure Control Plan introduced in the 1990 federal budget froze the growth of per capita EPF entitlements for the fiscal years 1990-91 and 1991-92. This provision was extended to 1994-95 in the 1991 budget.

3.1.2 The Structure of Health Spending in Canada

As indicated earlier, health care in Canada is almost entirely an area of provincial jurisdiction according to the Constitution. Canada's publicly funded health care system consists of 12 distinct provincial and territorial plans sharing many common features. Health insurance is universal and covers all medically necessary hospital and physician services

and certain surgical dental procedures. Hospital services include inpatient care, drugs, supplies, tests as well as outpatient services. Physician services cover all medically required services offered in hospitals, clinics or physicians' offices. Private health insurance that duplicates services covered by the public plans is prohibited. Also, there are no deductibles or co-payments for medically necessary services. The degree of coverage varies between provinces and territories for other services such as drugs, ambulance services, long-term care, dental services, home care and optometry.

All provinces operate health insurance programs either from within a ministry of health or through a closely linked agency. Each province has specific authority in the establishment, maintenance and management of health services within its territory including medical care, hospital care and public health services. Provincial governments are the sole payers of operating hospital expenditures and physician expenses. They determine hospital budgets, negotiate physician fees and regulate capital expenditures and the acquisition of expensive equipment.

Most physicians are independent and remunerated on a "fee-for-service basis". The physician payment schedule of each provincial plan is negotiated between the provincial and territorial authority and the organization representing medical practitioners. Other forms of remuneration are salaries, sessional fees or some combination.

The federal participation in the health sector is concentrated on formulating and enforcing national standards, assisting the provinces in financing their programs and protecting and promoting health. The federal government also provides health care services to Indians living on reserves, Inuit, prisoners in federal penitentiaries, members of the armed forces, the RCMP, and pays for residents of the Yukon and Northwest Territories. Finally, federal/provincial/territorial consultation and collaboration on the promotion, protection and maintenance of health are enhanced through many mechanisms such as the Conference of Health Ministers.

According to FMS data, total public spending on health are estimated at $39.2 billion or 6.0 per cent of GDP for 1989-90 (Table 3.1). These figures do not incorporate any tax expenditures -- such as the deduction for private medical expenses in excess of 3 per cent of income. Hospital care spending represented 59 per cent of total public health spending or $23.0 billion. This category of spending includes all current and capital outlays of general, psychiatric and other hospitals such as specialty hospitals, rehabilitation and extended care facilities including chronic care. Transfers to private hospitals and spending of government-owned hospitals (except for national defence and veterans hospitals) are also included. Medical care, which represents the second major component, accounted for 32 per cent of total public health spending or $12.5 billion. This category of

Table 3.1

The Structure of Health Spending in Canada -- 1989-90

($ billion unless otherwise indicated)

	Hospital Care	Medical Care	Other Health Care	Total
Direct Public Spending				
Federal[1]	0.1	0.4	0.6	1.1
% of GDP	(0.0)	(0.1)	(0.1)	(0.2)
Provincial	20.2	12.1	2.7	35.0
% of GDP	(3.1)	(1.9)	(0.4)	(5.4)
Local	2.7	0.0	0.4	3.1
% of GDP	(0.4)	(0.0)	(0.1)	(0.5)
Sub-Total	23.0	12.5	3.7	39.2
% of GDP	(3.5)	(1.9)	(0.6)	(6.0)
Private Spending[2]				
Sub-Total	3.5	9.1	1.8	14.4
% of GDP	(0.5)	(1.4)	(0.3)	(2.2)
Total Spending	26.5	21.6	5.5	53.6
% of GDP	(4.1)	(3.3)	(0.8)	(8.3)
Memorandum:				
Federal Transfers				
Cash Transfers	5.3	1.4	0.0	6.7
% of GDP	(0.8)	(0.2)	(0.0)	(1.0)
Tax Transfers	N.A.	N.A.	N.A.	7.2
% of GDP				(1.1)
Provincial Transfers	2.0	0.0	0.2	2.2
% of GDP	(0.3)	(0.0)	(0.0)	(0.3)

1. Finance Canada estimates. It should be noted that these estimates, which are based on the FMS database, are not strictly comparable to the figures released by the Department of National Health and Welfare (viz. their estimate of $1.6 billion for federal direct spending as compared to the $1.1 billion figure reported in the Table).

2. Health and Welfare Canada for the total; the distribution by component is assumed to be the same as in 1987.

Sources: Financial Management System; Health and Welfare Canada and Finance Canada.

spending covers all general medical care programs such as those for physicians (including fee-for-service payments related to services in hospitals), dental and nursing services. Consequently, this category includes mainly outlays for professional services. Subsidized drugs (for seniors or the disabled for example) and out-of-province services are also included. The residual category, which includes preventive services (research and other preventive services) and other health services (clinics for the treatment of mentally disabled, for example), amounted to about 9 per cent of total public health expenditures in 1989-90.

As shown in Table 3.1, provincial administrations accounted for 89 per cent of direct public health spending in 1989-90. They accounted for 88 per cent of hospital care spending, 97 per cent of medical care spending,

and 73 per cent of other health spending. Local government health spending is mainly devoted to hospital care. Federal direct health spending represented only $1.1 billion in 1989-90 or 3 per cent of total public health spending. Federal specific transfers to provinces are effected almost entirely within the context of the Established Programs Financing (EPF) arrangements. These provide an equal per capita entitlement to all provinces and territories for the financing of hospital and medical insurance and of extended health care (nursing homes for example). Cash transfers are estimated at $6.7 billion and tax transfers at $7.2 billion for 1989-90.

All levels of government as well as the private sector contribute to the financing of the Canadian health system. Inter-governmental transfers are significant, implying that the financing and spending structures at each level of government are quite different. In 1989-90, the federal government financed approximately 28 per cent of total public and private health spending: most of this contribution took the form of transfers to provinces -- either through tax or cash transfers. Aside from these federal transfers, provincial governments finance most of their health spending from general taxation. In addition to these two sources of revenues, British Columbia, Alberta and the Yukon levy premiums while Québec, Ontario and Manitoba levy payroll taxes on employers. Provincial financing accounted for some 43 per cent of total public and private health financing in Canada in 1989-90. At the local government level, own-source financing represented about one per cent of total health spending. Consequently, the private sector financed more than 25 per cent of total health spending in 1989-90.

Given the small proportion of direct health spending attributable to the federal and local governments, the following analysis concentrates on the evolution of health spending at the provincial level, including transfers to local governments.

3.1.3 Recent Trends in Provincial Health Spending

Provincial health spending, including transfers to local governments, increased from 25.1 per cent of total provincial spending in 1975-76 to 27.5 per cent in 1989-90. As a proportion of GDP, they also increased 0.7 percentage points to 5.7 per cent over this period. As indicated earlier, health spending can be disaggregated into three categories. As preventive care and other health spending represent only 8 per cent of total provincial health spending, the analysis focuses on the two major components: hospital and medical care. A summary of the evolution of these two components is presented in Tables 3.2 and 3.3.

For Canada as a whole, per capita medical care spending grew 2.3 percentage points faster annually than hospital care spending over the 1975-1976 to 1989-1990 period (Table 3.2). All provinces and territories

Table 3.2
Growth in Provincial Health Spending -- 1975-76 to 1989-90
(per cent)

	Hospital Care		Medical Care	
	Nominal	Per Capita	Nominal	Per Capita
	(average annual growth)			
Newfoundland	8.5	8.2	11.5	11.2
Prince Edward Island	10.7	9.9	10.8	9.9
Nova Scotia	10.7	10.0	11.7	11.1
New Brunswick	10.0	9.4	13.7	13.1
Québec	8.6	8.0	9.6	9.0
Ontario	10.0	8.7	14.8	13.5
Manitoba	10.4	9.9	11.6	11.1
Saskatchewan	11.4	10.6	11.9	11.1
Alberta	10.8	8.4	12.7	10.2
British Columbia	12.4	10.5	10.1	8.3
Yukon	7.2	5.9	19.8	18.3
Northwest Territories[1]	18.8	16.6	13.3	11.2
Canada	10.0	8.9	12.4	11.2

1. As a result of the transfer of responsibility for health services from the federal government to the Territories, there is a structural break in these series.

Source: Financial Management System.

Table 3.3
Importance of Provincial Health Spending -- 1975-76 to 1989-90
(per cent of GDP)

	Hospital Care		Medical Care	
	1975-76	1989-90	1975-76	1989-90
Newfoundland	6.6	5.5	1.5	1.8
Prince Edward Island	4.9	5.0	1.8	1.8
Nova Scotia	5.1	5.2	1.8	2.1
New Brunswick	4.9	4.6	1.3	1.9
Québec	4.1	3.6	1.6	1.5
Ontario	3.1	2.9	1.2	2.2
Manitoba	4.0	4.7	1.0	1.4
Saskatchewan	2.7	4.3	1.1	1.9
Alberta	2.7	3.2	1.0	1.6
British Columbia	2.7	3.6	1.9	1.9
Yukon	2.7	1.4	0.1	0.3
Northwest Territories[1]	2.4	5.5	1.2	1.4
Canada	3.4	3.4	1.4	1.9

1. As a result of the transfer of responsibility for health services from the federal government to the Territories, there is a structural break in these series.

Source: Financial Management System.

except British Columbia and Northwest Territories showed higher growth for medical care. For this latter category, growth rates per capita ranged from a low of 8.3 per cent in British Columbia to a high of 18.3 per cent in Yukon. For hospital care, the extremes were Yukon (5.9 per cent) and Québec (8.0 per cent) at the low end and Saskatchewan (10.6 per cent) at the high end.[11]

As a proportion of GDP (Table 3.3), hospital spending remained stable at 3.4 per cent from 1975-76 to 1989-90, while the ratio for medical care increased 0.5 percentage points to 1.9 per cent. The stability of the hospital spending ratio at the national level hides significant declines in Yukon and Newfoundland and strong increases in Northwest Territories, Saskatchewan and British Columbia. Medical care spending as a proportion of GDP increased in most provinces and territories, with the exceptions of Québec, British Columbia and Prince Edward Island.

3.1.4 Accounting for the Growth in Health Spending

Explaining the growth in health spending is a complex task. The largely essential nature of the service and the absence of competitive market forces are factors, among others, that significantly increase the complexity of the analysis. A two-stage approach is followed to analyze the growth in public health spending. First, a rather aggregated analysis of health cost drivers is performed. Three types of factors are considered: the effective utilization of the services, the degree of relative real enrichment of the programs, and the relative evolution of the prices of health services *vis-à-vis* other goods and services in the economy. Second, specific factors underlying the evolution of the above-mentioned aggregate factors are examined. Given the significant divergences in the structure of hospital and medical care services, the two components are analyzed separately.

i) Hospital Care

In order to identify the contribution of the main factors underlying the growth in hospital spending as a proportion of GDP, we use the following decomposition[12]:

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11. Northwest Territories were not considered as the strong growth recorded in this jurisdiction over the period reflects largely a structural shift.

12. For a brief description of the properties of this type of decomposition see annex 3.4.

$$\frac{HE}{GDP} = \frac{PAD}{POP} \cdot \frac{HE/PH/PAD}{GDP/PGDP/POP} \cdot \frac{PH}{PGDP}$$

(1) (2) (3)

HE = provincial spending on hospitals
GDP = nominal GDP
PAD = number of patient-days
POP = total population
PH = price index for hospital spending
PGDP = GDP deflator

The first term, the "utilization ratio", is the ratio of patient-days in general and allied special hospitals[13], excluding psychiatric, to total population. This ratio is an indicator of the effective demand for hospital services. Its evolution reflects a number of demand and supply factors. For example, an increase in the per capita demand for hospital services would result, other factors held constant, in an increase in this ratio. However, constraints on the availability of hospital beds, even in the context of an increasing per capita demand for hospital services, may prevent this ratio from rising or even result in a decline. It is important to note that the utilization ratio only covers patients treated in hospitals; outpatient numbers, which have increased faster than inpatient numbers, are not included.

The second term, the "real enrichment ratio", represents the ratio of the real hospital spending per patient-day to the real per capita production in the economy. An increase in this ratio would indicate that real resources devoted to patient-day hospital services are growing faster than real per capita production in the economy. However, it is worth noting that any change in the composition of hospital clientele will also be reflected in the evolution of the enrichment ratio as, for example, would the substitution of long-term for short-term beds.

The third term, the price ratio, accounts for the relative evolution of the price for hospital services *vis-à-vis* the general price level in the economy. As there are no published price indices for hospital expenditures, the proxy used here is based on Statistics Canada's unpublished price indices for labour income and residual spending in the hospital sector which are part of the national accounts government sector deflator. Given the experimental nature of these price indices, their contribution to the evolution of the hospital spending ratio should be treated

13. Source: Statistics Canada, Hospital Statistics, cat. 82-003s and 83-217.

with prudence. In order to circumvent this problem, the decomposition can be limited to only two factors: the utilization ratio and the nominal enrichment ratio which corresponds to the product of the real enrichment ratio and the price ratio.

Table 3.4 presents the results of the decomposition of the hospital spending ratio. The results presented in this table are for the period 1976 to 1988 only. This reflects the limited availability of hospital statistics. Overall, the analysis indicates that the slight increase in Canadian hospital spending as a proportion of GDP observed over this period is accounted for by an increase in the nominal enrichment of hospital services which more than offset a small decline in the effective utilization of hospital services. However, this result does not hold in each province. The evolution of each element of the decomposition will now be examined individually.

The Utilization of Hospital Services

The utilization ratio remained almost unchanged for the Canadian hospital sector between 1976 and 1988, although significant movements were recorded across provinces. The utilization of hospital services applied an upward pressure on the hospital spending ratio in all provinces east of Ontario with the exception of Newfoundland, while it contributed to a decline in the hospital spending ratio in western provinces. This divergence in the evolution of the utilization ratio reflects the asymmetric evolution of the number of patient-days and populations. Generally speaking, patient-days increased at a more rapid pace and population at a slower rate in eastern Canada over this period. There are exceptions, however, such as Newfoundland, where the number of patient-days declined and Alberta where the number of patient-days increased but was outpaced by strong population growth.

A number of provincial policy developments may have influenced the evolution of the utilization ratio. For example, in Nova Scotia beds were closed in areas where they were under utilized and others opened in areas where the demand was stronger. In British Columbia, the number of long-term care beds was significantly increased in late 1970s. Recently, this province decided to replace hospital care with home-based and community-based care facilities. This policy has exerted a downward pressure on the hospital utilization ratio in the most recent sub-period.

Table 3.4

Accounting for the Evolution of Hospital Care Spending

Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:		of which:	
		Utilization Ratio (1)	Relative Nominal Enrichment	Relative Real Enrichment (2)	Relative Price Effect (3)
Newfoundland					
1976-88	0.956	0.885	1.080	1.052	1.027
1976-80	0.980	0.989	0.991	1.002	0.989
1980-85	1.005	0.954	1.053	1.026	1.026
1985-88	0.971	0.938	1.035	1.023	1.012
Prince Edward Island					
1976-88	1.189	1.036	1.147	0.956	1.200
1976-80	1.209	1.018	1.187	1.008	1.178
1980-85	1.100	1.048	1.049	0.954	1.100
1985-88	0.894	0.971	0.920	0.994	0.926
Nova Scotia					
1976-88	1.042	1.096	0.950	0.899	1.057
1976-80	1.109	1.172	0.946	0.781	1.212
1980-85	0.953	0.960	0.993	1.091	0.911
1985-88	0.986	0.975	1.011	1.055	0.958
New Brunswick					
1976-88	0.990	1.030	0.961	0.867	1.109
1976-80	1.060	1.063	0.997	0.874	1.141
1980-85	1.051	1.015	1.035	1.014	1.021
1985-88	0.889	0.955	0.931	0.978	0.952
Québec					
1976-88	0.831	1.173	0.709	0.739	0.959
1976-80	0.857	1.151	0.745	0.805	0.926
1980-85	1.011	1.084	0.933	0.897	1.040
1985-88	0.959	0.940	1.020	1.025	0.995
Ontario					
1976-88	1.035	0.929	1.114	0.923	1.208
1976-80	0.912	0.982	0.929	0.906	1.025
1980-85	1.221	1.000	1.220	1.036	1.178
1985-88	0.929	0.945	0.983	0.983	1.000
Manitoba					
1976-88	1.057	0.875	1.208	0.932	1.295
1976-80	1.013	0.918	1.104	1.038	1.063
1980-85	1.110	1.049	1.059	0.888	1.192
1985-88	0.940	0.909	1.034	1.012	1.022
Saskatchewan					
1976-88	1.502	0.806	1.864	1.459	1.278
1976-80	1.033	1.001	1.032	1.051	0.983
1980-85	1.322	0.860	1.538	1.269	1.212
1985-88	1.099	0.937	1.174	1.094	1.073
Alberta					
1976-88	1.198	0.919	1.303	1.180	1.104
1976-80	0.802	0.943	0.850	0.989	0.860
1980-85	1.273	1.019	1.249	1.181	1.058
1985-88	1.174	0.957	1.226	1.010	1.214
British Columbia					
1976-88	1.288	0.900	1.430	1.311	1.091
1976-80	1.208	1.053	1.148	1.103	1.040
1980-85	1.046	0.966	1.083	1.010	1.072
1985-88	1.019	0.886	1.150	1.176	0.978
Canada					
1976-88	1.024	0.986	1.039	0.885	1.174
1976-80	0.926	1.038	0.892	0.862	1.035
1980-85	1.128	1.015	1.112	1.004	1.107
1985-88	0.980	0.936	1.047	1.022	1.024

A better understanding of the evolution of the utilization ratio can be obtained by examining in greater detail the factors influencing the evolution of the number of patient-days. This variable can be related to the number of separations[14] (a measure of the number of people treated in hospitals) and the average length of stay. The number of separations remained relatively stable in Canada over the 1976-1988 period (Table 3.5) although significant differences were recorded between the provinces. East of Ontario, the number of separations increased in all provinces with the exception of Newfoundland. The strongest increases were recorded in Nova Scotia (19.2 per cent) and in New Brunswick (6.3 per cent). In contrast, in all other provinces with the exception of Alberta, the number of separations declined which contributed to the decline in the utilization ratio observed Ontario westward.

The average length of stay, the other determinant of patient-days, increased from 10.9 days in 1976 to 12.5 days in 1988 for Canada[15]. A majority of provinces/territories experienced an increase in their average length of stay. This increase reflects in part the higher proportion of long-term beds, a side effect of an aging population. There was also an increase in the number of extended care patients waiting in hospitals for nursing home beds. Abstracting from these factors, a longer length of stay in hospitals with no long-term beds was noted. This may reflect the increased complexity of treatments and the treatment of more seriously ill patients in hospitals while diverting less acute cases to outpatient services or community care (Newfoundland and Alberta for example). In Ontario and British Columbia, the increase in the average length of stay more than offset the decline in the number of separations and accounted for the increase in the number of patient-days.

Table 3.5 also presents information on the number of public hospitals, the number of beds, and occupancy rates. The number of public hospitals remained relatively stable across Canada over the 1976-1988 period. Over the same period, the number of hospital beds increased by 7.1 per cent. The largest increases occurred in Alberta (19 per cent) and British Columbia (15 per cent) but there were declines in Newfoundland, Manitoba, and Saskatchewan.

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14. Defined as the official departure from the hospital of a live inpatient or death of a patient.

15. Important inter-provincial divergences in the average length of stay reflect differences in the composition of the hospital care sector. For example, in Québec, the proportion of extended care beds is significantly higher than in other provinces.

Table 3.5
Hospital Statistics

	Number of Hospitals		Number of Beds (thousands)		Occupancy (per cent)	
	1976	1988	1976	1988	1976	1988
Newfoundland	47	41	3.4	3.2	69.8	68.4
Prince Edward Island	9	8	0.7	0.8	76.0	78.7
Nova Scotia	47	47	5.0	5.4	71.2	72.5
New Brunswick	35	33	4.2	4.4	81.3	77.6
Québec	175	175	37.7	41.5	79.4	85.9
Ontario	233	224	49.0	50.3	80.2	82.9
Manitoba	80	84	6.4	6.3	77.0	72.3
Saskatchewan	136	135	8.0	7.3	72.0	72.6
Alberta	145	145	14.2	16.9	75.2	76.0
British Columbia	115	112	17.0	19.5	82.9	85.4
Yukon	-	-	-	-	-	-
Northwest Territories[1]	3	49	0.2	0.5	56.9	36.0
Canada	1,025	1,052	145.7	156.0	78.5	81.4

	Number of Separations (thousands)		Average Length of Stay (days)		Patient-Days (thousands)	
	1976	1988	1976	1988	1976	1988
Newfoundland	90	80	8.6	9.0	825	745
Prince Edward Island	25	26	7.6	8.4	193	218
Nova Scotia	125	149	9.7	9.3	1,221	1,424
New Brunswick	111	118	10.7	10.5	1,136	1,234
Québec	710	751	13.7	17.3	10,350	12,931
Ontario	1,404	1,311	10.2	11.6	14,378	15,237
Manitoba	166	160	10.7	10.7	1,802	1,674
Saskatchewan	198	196	10.0	9.2	2,062	1,828
Alberta	356	382	10.4	11.4	3,919	4,683
British Columbia	412	399	11.4	13.6	5,149	5,602
Yukon	-	-	-	-	-	-
Northwest Territories[1]	5	6	7.0	7.1	34	40
Canada	3,602	3,577	10.9	12.5	41,069	45,616

1. As a result of the transfer of responsibility for health services from the federal government to the territories, there is a structural break in these series.

Source: Statistics Canada, Hospital Statistics, cat. 82-003s and 83-217; excluding psychiatric hospitals.

Finally, the occupancy rate of hospitals across Canada increased from 78.5 per cent in 1976 to 81.4 per cent in 1988. All provinces, except Newfoundland, New Brunswick, and Manitoba, experienced an increase in the occupancy rate of their hospitals. Occupancy rates are, of course, a combination of capacity (number of beds) and demand (patient-days). The increase in occupancy across Canada reflected faster growth in patient-days (11.1 per cent) than in the number of beds (7.1 per cent). This increased efficiency of bed management reflects a higher proportion of long-term beds, a decline in the number of beds per physician and budgetary restrictions.

The Relative Enrichment of Hospital Services

The nominal enrichment ratio is presented in the third column of Table 3.4. From 1976 to 1988, all provinces except Nova Scotia, New Brunswick, and Québec experienced growth in their hospital spending per patient-day that exceeded per capita output. This was particularly noticeable in Saskatchewan, Alberta, and British Columbia. For these three provinces, the ratio of hospital spending to GDP was lower than the all-province average at the beginning of the period; also very strong growth in hospital spending was recorded at the end of the 1970s in British Columbia and in the early 1980s in Alberta and Saskatchewan. In these latter two provinces, the increases mainly reflected additional grants to special care facilities such as chronic care facilities. In British Columbia, the increased number of long-term care beds pushed up spending per patient-day in the late 1970s. It is worth noting that the strong growth recorded in Alberta and British Columbia may largely reflect the objective of bringing the level of service in line with that in other jurisdictions -- in 1988, the spending ratios in these provinces were in line with the all-province average. Hospital spending did not grow rapidly after 1982-83 in Saskatchewan, but the production per capita declined in both 1986 and 1987 pushing up the nominal enrichment ratio.

The nominal enrichment ratio can be decomposed into a real enrichment component and a price component. In analyzing these results, the limitations mentioned earlier with respect to the hospital sector price indices must be kept in mind.

Relative Price Effect and Real Enrichment

The relative price factor had a positive impact in all provinces except Québec (Table 3.4). Overall, it was the main contributing factor to the increase in the hospital spending ratio. Wage and price pressures were mostly concentrated in the 1980-1985 period. They were particularly significant in Manitoba, Saskatchewan, Ontario and Prince Edward Island. The upward pressures from the relative price effect were much weaker in the 1985-1988 period with the exception of Alberta.

The relative real enrichment component did not apply upward pressures on the spending ratio at the national level. A number of factors may account for this development. For example, most provinces applied tighter cost controls through global budgeting. Further, there has been an increase in the proportion of long-term hospital beds whose costs are lower than those of acute care beds. At the provincial level, relative real enrichment applied upward pressures on the hospital spending ratio in Saskatchewan, British Columbia, and to a lesser extent, in Alberta.

The Structure of Hospital Spending

Table 3.6 provides more detailed information on the evolution of the hospital cost structure[16].

Hospital spending can be decomposed into wages and benefits, medical and surgical supplies, drugs, and "other". Wages and benefits account for some 74 per cent of total hospital spending, medical and surgical supplies 4 per cent, drugs 3 per cent and other 19 per cent. The first panel of Table 3.6 presents growth rates of the components of hospital spending per patient-day for each jurisdiction. The second panel presents the contribution of each of these components to the growth in total hospital spending.

Total hospital spending per patient-day grew at an average annual rate of 9.4 per cent over the 1976-1988 period at the national level; the fastest growth was recorded in the Prairies. Among the components, drugs and medical and surgical supplies grew at about 13 per cent. New drugs are expensive and generic products are not available before an extended period of time (10 years since 1987). Also new technologies require new and expensive equipment and surgical procedures, enhanced nursing care, and probably increased drug utilization. Wages and benefits per patient-day grew 8.9 per cent on average, the lowest rate among the components despite increased nursing care per treatment and a more specialized nursing labour force. The growth in wage costs per patient-day was particularly low in Québec. This reflects the measures introduced in the early 1980s to curb the growth in public sector wages in this province. Finally, growth for other spending per patient-day was relatively low in the Atlantic provinces.

Although the wage and benefit component grew at a slower pace than the other cost components over this period, its contribution was, by far, the most significant to the overall growth in hospital costs. This reflects the importance of wages and benefits in the hospital cost structure. Wages and benefits were responsible on average for more than 70 per cent of the growth in hospital spending per patient-day over the period covered. Drugs, the fastest growing component, contributed only four per cent to the growth of this spending.

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16. It is important to note that the FMS, which is the basic source of information used in this paper, does not provide any information on the detailed cost structure of hospitals. The following analysis is based on Statistics Canada's publication entitled: Hospital Statistics. These data are not fully reconcilable with the FMS figures. However, they provide an accurate picture of the cost structure of hospitals.

Table 3.6

Hospital Spending per Patient-Day – 1976-77 to 1988-89

	Hospital Spending	Wages and Benefits	Medical and Surgical Supplies	Drugs	Other
	(average annual growth, per cent)				
Newfoundland	10.8	10.9	13.9	12.9	9.6
Prince Edward Island	10.1	10.2	13.2	12.0	8.9
Nova Scotia	10.3	10.0	13.0	13.2	10.2
New Brunswick	9.9	10.2	13.6	14.1	7.5
Québec	7.0	6.5	9.7	11.0	8.1
Ontario	10.1	9.5	14.0	14.2	11.4
Manitoba	11.3	10.7	14.6	12.9	12.7
Saskatchewan	10.5	10.2	14.0	13.3	10.4
Alberta	11.2	10.7	15.5	14.7	11.5
British Columbia	9.6	9.1	14.1	13.9	10.4
Canada	9.4	8.9	13.0	13.2	10.2
	(percentage contribution to total growth)				
Newfoundland	100	71.6	5.1	3.5	19.8
Prince Edward Island	100	73.2	5.1	3.6	18.1
Nova Scotia	100	69.2	5.8	4.2	20.8
New Brunswick	100	73.3	6.3	4.1	16.2
Québec	100	71.2	4.5	4.2	20.0
Ontario	100	69.8	5.1	4.1	21.0
Manitoba	100	67.7	4.4	3.1	24.7
Saskatchewan	100	71.1	5.3	3.6	20.0
Alberta	100	70.9	4.9	3.7	20.4
British Columbia	100	74.9	5.8	4.1	15.2
Canada	100	70.9	5.1	4.0	20.0

Sources: Statistics Canada, Hospital Statistics, cat. 82-003s and 83-217, and Department of Finance; excluding psychiatric hospitals.

ii) Medical Care

In order to identify the contribution of the main factors underlying the growth in medical care spending as a proportion of GDP, the following decomposition was used:

$$\frac{ME}{GDP} = \frac{SER}{POP} \cdot \frac{ME/PM/SER}{GDP/PGDP/POP} \cdot \frac{PM}{PGDP}$$

(1) (2) (3)

ME = provincial spending on medical care
GDP = nominal GDP
SER = number of services based on fee-for-service
POP = total population
PM = price index for medical care
PGDP = GDP deflator

The first term, the utilization ratio, corresponds to the total number of services provided on a fee-for-service basis[17] (excluding radiology, laboratory and unclassified services) divided by total population. It is important to note that all types of medical services are aggregated together even if they are not strictly comparable. Consequently, changes in the composition of services over time will also be reflected in the second term, i.e. the real cost per service.

The second term is a measure of the relative real enrichment of medical care services. It compares the evolution of the real cost per service to the evolution of the real per capita production in the economy.

The third term is the ratio of the price index for medical care to the GDP deflator. The price index for medical care is computed by Health and Welfare Canada. The index reflects payment schedules for provincial/territorial physicians' services remunerated on a fee-for-service basis by medical care insurance plans. Payments to physicians based on sessional fees, salaries or other remuneration modes are not included.

Results of the decomposition of the medical care spending ratios are presented in Table 3.7[18]. For Canada as a whole, the proportion of medical care spending to GDP increased 29 per cent over the 1977-1988 period. The main determinant was the growth in the number of services per capita which increased by more than 30 per cent. The price index for medicare also increased some 12 per cent more rapidly than the GDP deflator. The real cost per service grew less rapidly than real economic growth per capita over this period and provided some offset. The contribution of each factor explaining the movements in the medical care ratios is assessed individually.

The Utilization Ratio

As mentioned previously, the utilization ratio (the number of services per capita) represented the main upward pressure on medicare spending at the national level. At the provincial level, the smallest increase was recorded in Manitoba (23 per cent) whereas the largest increase was registered in Newfoundland (60 per cent). A number of inter-related factors

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17. The number of services are from Health and Welfare Canada's National Grouping Statistics.

18. Results are presented for the period 1977 to 1988 given the availability of data on the number of services. There are no data on the number of services for Yukon and Northwest Territories.

Table 3.7

Accounting for the Evolution of Medical Care Spending

Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:		of which:	
		Utilization Ratio (1)	Relative Nominal Enrichment	Relative Real Enrichment (2)	Relative Price Effect (3)
Newfoundland					
1977-88	1.312	1.595	0.822	0.849	0.969
1977-80	1.057	1.143	0.925	0.928	0.996
1980-85	1.279	1.201	1.065	1.112	0.957
1985-88	0.971	1.162	0.835	0.822	1.016
Prince Edward Island					
1977-88	0.991	1.309	0.757	0.776	0.976
1977-80	1.003	1.065	0.942	0.948	0.994
1980-85	1.086	1.237	0.878	0.853	1.029
1985-88	0.909	0.994	0.915	0.959	0.954
Nova Scotia					
1977-88	1.124	1.393	0.807	0.833	0.968
1977-80	1.077	1.065	1.011	0.967	1.045
1980-85	1.043	1.155	0.903	0.936	0.965
1985-88	1.000	1.132	0.884	0.921	0.960
New Brunswick					
1977-88	1.135	1.277	0.888	0.908	0.978
1977-80	1.196	1.036	1.155	1.097	1.053
1980-85	0.793	1.122	0.707	0.700	1.009
1985-88	1.197	1.099	1.089	1.183	0.921
Québec					
1977-88	1.092	1.244	0.878	1.089	0.806
1977-80	1.307	1.114	1.173	1.407	0.834
1980-85	0.894	1.073	0.833	0.828	1.006
1985-88	0.934	1.041	0.897	0.935	0.960
Ontario					
1977-88	1.436	1.361	1.055	0.868	1.215
1977-80	1.058	1.081	0.979	0.989	0.990
1980-85	1.240	1.141	1.087	0.890	1.221
1985-88	1.094	1.104	0.991	0.986	1.006
Manitoba					
1977-88	0.914	1.233	0.741	0.748	0.991
1977-80	0.864	1.028	0.840	0.899	0.935
1980-85	1.122	1.163	0.965	0.899	1.074
1985-88	0.942	1.031	0.914	0.925	0.987
Saskatchewan					
1977-88	1.423	1.309	1.087	0.948	1.146
1977-80	0.997	1.057	0.943	1.104	0.854
1980-85	1.424	1.175	1.212	0.967	1.253
1985-88	1.002	1.054	0.951	0.888	1.071
Alberta					
1977-88	1.477	1.332	1.108	1.196	0.927
1977-80	0.876	1.015	0.863	1.110	0.777
1980-85	1.380	1.253	1.101	1.098	1.003
1985-88	1.222	1.048	1.166	0.981	1.189
British Columbia					
1977-88	1.170	1.286	0.910	0.869	1.047
1977-80	1.029	1.076	0.957	0.982	0.974
1980-85	1.237	1.125	1.100	0.963	1.142
1985-88	0.919	1.063	0.865	0.919	0.941
Canada					
1977-88	1.290	1.311	0.984	0.882	1.116
1977-80	1.086	1.079	1.007	1.044	0.965
1980-85	1.135	1.133	1.002	0.880	1.138
1985-88	1.046	1.073	0.975	0.959	1.017

Table 3.8
Health Personnel

	Population per Active Civilian Physician Excl. Interns & Residents			Population per Active Civilian Specialist		
	1977	1989	% change	1977	1989	% change
Newfoundland	885	588	-34	2,716	1,829	-33
Prince Edward Island	888	726	-18	2,294	1,866	-19
Nova Scotia	707	507	-28	1,583	1,168	-26
New Brunswick	958	748	-22	2,138	1,815	-15
Québec	658	489	-26	1,131	968	-14
Ontario	643	493	-23	1,344	1,026	-24
Manitoba	692	564	-18	1,451	1,194	-18
Saskatchewan	782	659	-16	2,153	1,792	-17
Alberta	762	590	-23	1,658	1,330	-20
British Columbia	588	486	-17	1,281	1,070	-16
Yukon	864	679	-21	7,200	5,160	-28
Northwest Territories	1,276	1,189	-7	5,425	8,917[1]	64[1]
Canada	671	515	-23	1,359	1,095	-19

1. A very large increase is noted in 1989 reflecting structural changes.

Source: Health and Welfare Canada, Health Personnel in Canada, 1989.

have been suggested to explain the increase in the number of services per capita.

1) The strong increase in the number of physicians and specialists and the related decline in population per physician

The decline in the population per physician may have induced physicians to provide more medical services in order to maintain their incomes given both the open-ended nature of the system and the method of payment. Table 3.8 reviews the evolution of the population per physician or specialist over the 1977-1989 period. For Canada, the population per physician declined 23 per cent over the period and this phenomenon was spread across all provinces and territories. The greatest decline occurred in Newfoundland (34 per cent) and the lowest in the Northwest Territories (7 per cent). A similar phenomenon, although less pronounced, was observed for the population per specialist. Again, the greatest decline took place in Newfoundland (33 per cent) and the lowest in Québec (14 per cent), which already had the lowest ratio.

2) The availability of new technology

New technologies (equipment, drugs and procedures) have increased the number of "services" available from the medical profession (often by providing improved treatments and new cures). This can have an uncertain effect on overall demand. While new services can create their own new demand, new technology can also reduce the number of services in the future through early intervention and prevention. To explore this matter further, the growth rates in the number of services by physicians and specialists have been compared between 1983-84 and 1987-88, a period of rapid expansion of new technologies. It was found that the number of services related to general practice increased less rapidly than those related to specialties which are generally believed to be more technology intensive (Table 3.9). This occurred despite a slower increase in the number of specialists compared with general practitioners. This result cannot be generalized to all regions of Canada as this conclusion mainly reflects developments in central Canada.

3) The aging of population

An aging population implies an overall increase in the utilization of the health system because older people use the system more intensively (in the order of 3 to 7 times more than younger people). Moreover, in recent years, an upward trend has also been observed in the utilization of medical services by older patients. This can be explained by a number of factors: the emergence of new technologies which increase the number of services; the increasing choice of treatments for terminal illnesses; the increased number of physicians and nurses; and higher expectations from patients.

4) The organizational structure

The organizational structure of the Canadian health care system allows the demand for health care services to grow rapidly. Although the decline in the population per physician should have resulted in a decline in the number of services per physician, this ratio has increased marginally. The open-ended nature of the system rewards volume to the extent that physicians can maintain their earnings in light of potentially declining demand by increasing the number of services for each patient. Furthermore, there is the perception by the patient that there is a zero marginal cost to the incremental use of the services; this provides an incentive to ask for more services than required for precautionary motives. Consequently, the marginal benefits of extra services can be lower than their marginal costs. Although some provinces have imposed some form of restrictions on the total

Table 3.9

Number of Services for Medical Care Insurance Physician Fee-Practice 1983-84 to 1987-88

(average annual growth)

	All Specialities				General Practice	
	Total	Of Which:			Total	Of Which:
		Consultations & Visits	Total Surgery	Other[1]		Consultations & Visits
Newfoundland	3.7	2.6	2.6	9.5	4.7	4.8
Prince Edward Island	2.5	1.9	0.0	4.5	2.5	2.6
Nova Scotia	2.4	1.1	3.1	7.5	3.9	4.0
New Brunswick	2.8	1.8	2.3	6.5	3.9	4.0
Québec	3.3	4.0	-1.9	2.3	1.4	1.4
Ontario	5.9	4.7	5.2	9.9	4.4	4.3
Manitoba	1.7	0.9	3.5	4.4	3.1	3.3
Saskatchewan	5.8	2.2	5.1	13.8	2.3	2.2
Alberta	3.1	2.4	1.8	6.7	4.4	4.7
British Columbia	2.4	1.4	2.5	5.6	3.0	3.0
All provinces	4.3	3.6	2.2	6.6	3.4	3.3

1. Mainly diagnostics.

Source: Health and Welfare Canada.

billing by physicians, few provinces succeeded to effectively control the overall utilization of medical services.

5) Provincial institutional changes

Over the years, the basket of insured services has been modified in many provinces. In the late 1970s and the early 1980s, for example, medicare coverage was extended to include dental care for children (not reflected in the number of services as measured in the utilization ratio) and prescribed drugs for senior citizens in many jurisdictions. Recently, in some provinces, these provisions were abolished or made less generous.

The Relative Nominal Enrichment of Medical Care Services

The nominal enrichment ratio is presented in the third column of Table 3.7. At the national level, this factor did not have any significant impact on medicare spending as a proportion of GDP. This may be considered as an indication of the effectiveness of cost containment through negotiated fee schedules. The nominal enrichment ratio increased marginally in Alberta, Saskatchewan and Ontario. In many provinces, this ratio may

reflect the substitution of more expensive services for less expensive ones by physicians attempting to maintain income levels.

Relative Price Effect and Real Enrichment

The nominal enrichment ratio can be decomposed into a price ratio and a real enrichment ratio. As shown in Table 3.7, the price ratio increased some 12 per cent over the 1977-1988 period at the national level. However, the only provinces experiencing an increase in this ratio were Ontario, Saskatchewan and to a lesser extent British Columbia. Price pressures mainly occurred in the 1980-1985 period although, as for hospital spending, price effects were evident in Alberta for the most recent period. Overall, the process of negotiating fee schedules between the medical associations and governments insured that medical fees did not generally grow faster than the general price level in the economy. Restrictions on doctors' fee increases were also supported by wage controls in many provinces. Only Alberta and Québec experienced an upward movement in the real enrichment ratio during the 1977-1988 period.

The Structure of Medical Care Spending

Medical care spending can be decomposed into physicians, other professionals and drugs and appliances spending. In Canada, physicians accounted for 78 per cent of medical spending in 1987, while other professionals represented 6 per cent and drugs and appliances 16 per cent. Wages were a major proportion of physician and other professional spending. The share of drugs and appliances increased six percentage points between 1977 and 1987, mainly at the expense of physician spending.

Table 3.10 presents growth rates for total medical care spending and the main components, on a per capita basis, for each jurisdiction[19]. The second panel of the table shows the contribution of each component to the growth in total medicare spending for the 1977-1987 period.

Per capita medical care spending grew 12.4 per cent on average in Canada between 1977 and 1987. The fastest growth rates were recorded in New Brunswick and Ontario. Among the components, drugs and appliances registered the strongest increase over the period, followed by other professionals and physicians, respectively. Provincial differences are

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19. Data were provided by Health and Welfare Canada and are not fully reconcilable with the FMS figures. Data were not adjusted for any structural changes. Health spending composition can differ between provinces.

Table 3.10
Medical Care Spending Per Capita -- 1977 to 1987

	Medical Care Expenditures	Physicians	Other Professionals	Drugs and Appliances
		(average annual growth, per cent)		
Newfoundland	12.5	11.1	12.3	20.4
Price Edward Island	10.8	10.5	7.1	17.1
Nova Scotia	12.4	10.7	14.9	19.3
New Brunswick	14.4	13.4	17.7	17.6
Québec	10.5	9.3	11.6	17.4
Ontario	14.2	13.5	13.5	19.5
Manitoba	11.1	10.4	11.2	15.9
Saskatchewan	11.2	10.7	11.3	12.8
Alberta	12.8	11.2	15.0	20.9
British Columbia	10.7	9.8	13.3	16.3
Canada	12.4	11.5	13.1	18.1
		(percentage contribution to total growth)		
Newfoundland	100	69.2	7.4	23.4
Prince Edward Island	100	73.8	9.8	16.3
Nova Scotia	100	66.0	7.2	26.8
New Brunswick	100	70.8	2.8	26.4
Québec	100	69.4	8.0	22.6
Ontario	100	80.4	4.2	15.5
Manitoba	100	74.0	7.7	18.2
Saskatchewan	100	64.3	10.7	24.9
Alberta	100	66.5	13.4	20.1
British Columbia	100	75.4	7.8	16.8
Canada	100	74.8	6.7	18.5

Sources: Health and Welfare Canada (supplementary data to National Health Expenditures in Canada) and Finance Canada.

sometimes quite pronounced for each component: 4.2 percentage points between Québec and Ontario for physicians (Québec and British Columbia implemented wage controls in the early 1980s), 10.6 percentage points between Prince Edward Island and New Brunswick for other professionals and 8.1 percentage points between Saskatchewan and Alberta for drugs and appliances.

Because of its high share of total medical care spending, the physician component accounted for close to 75 per cent of total growth over the period; drugs and appliances were the second major contributor at 18.5 per cent even if their share was only 10 per cent in 1977. There are also significant provincial divergences: the contribution of physicians ranged from 64 per cent in Saskatchewan to 80 per cent in Ontario; the contribution of other professionals was only 3 per cent in New Brunswick compared to 13 per cent in Alberta; and finally, drugs and appliances accounted for 16 per cent of total growth in Ontario compared to 27 per cent in Nova Scotia.

3.1.5 Conclusions

The main conclusions of the preceding analysis are:

- Provincial health spending including transfers to local administrations represented an increasing share of total spending between 1976 and 1988. They also increased as a proportion of gross domestic product.

- This evolution mainly reflected strong growth in medical care spending as hospital spending grew in line with the economy.

Hospital Spending

- Although hospital spending as a proportion of GDP did not exhibit a marked upward trend over this period at the national level, significant differences were observed between individual provinces.

- Ontario westward, hospital spending grew faster than GDP, generally reflecting a strong growth in nominal spending per patient-day more than offsetting the decline in the per capita utilization of hospital services.

- East of Ontario, with the exception of Prince Edward Island and Nova Scotia, hospital spending as a proportion of GDP declined. In general, the growth in hospital spending per patient-day in these provinces was relatively weak while the per capita utilization of hospital services increased.

- Wages and benefits accounted for over two thirds of the growth in hospital spending per patient-day. Although wages and benefits grew at a slower pace than the other cost components such as medical and surgical supplies and drugs, they contributed the most to the overall growth in hospital spending given their relative importance. Drugs as well as medical and surgical supplies grew at a much faster pace over the period studied but accounted, respectively, for only 5 and 4 per cent of the growth in hospital spending per patient-day.

Medical Care

- Most provinces experienced an increase in medical care spending as a proportion of GDP, mainly reflecting a strong increase in the number of services per capita.

- Many factors may have contributed to this increase:
  - the number of physicians increasing faster than population;
  - new technologies adding new treatments combined with greater expectations from the public;
  - an aging population;
  - the organizational structure of the health care system based on the fee-for-service payment approach; and,
  - the public's perception of zero marginal cost for medical services.
- Cost pressures were contained as negotiations on fee schedules between medical associations and governments allowed most provinces to maintain fee increases in line with inflation.
- Overall, professional services accounted for more than 80 per cent of the growth in medical care spending per capita over the 1977-1987 period. Prescribed drugs explained the remainder.

3.2 Accounting for the Growth in Education Spending

This sub-section analyses the factors underlying the growth in education spending in Canada since 1975. The analysis begins with a brief historical review of the sector as well as an overview of the structure of education spending. This is followed by an examination of recent trends in provincial-local education spending. The last part provides a detailed analysis of the major cost drivers for elementary-secondary and postsecondary education respectively.

3.2.1 Historical Developments

The Constitution Act of 1982 reaffirmed the provisions of the British North America Act of 1867 which placed education under provincial jurisdiction. There are twelve systems of education in Canada with their own specifications: ages of attendance, programs, teachers' qualifications, graduation prerequisites. In each system, there are basically two levels of education offered: elementary-secondary including pre-elementary and postsecondary.

At the elementary-secondary level, there are four types of schools: public, private, federal, and schools for the handicapped. Public schools represent more than 94 per cent of total elementary-secondary enrolment. Local school boards are responsible for the establishment and the management of these schools. In some provinces, there are two systems of public schools based on religion. Private schools are administered by individuals or private groups. In some provinces they are partially financed by provincial grants. The federal participation is limited to elementary and secondary schools for Indians and Inuit, armed forces personnel and their families, and inmates of federal penitentiaries. Most schools for the handicapped are under direct provincial responsibility and provide special facilities and training, mostly for the blind and deaf.

The postsecondary level relates to both community colleges and universities. Community colleges include Collèges d'enseignement général et professionnel in Québec, Colleges of Applied Arts and Technology in other provinces, schools of art and other specialized institutions. Each provincial government has developed a different structure to govern and finance higher education. Federal involvement in postsecondary education is almost exclusively financial.

From 1952 to March 1967, the federal government made direct annual per capita grants to eligible universities and colleges except in Québec where special arrangements were made with the provincial

government. Since 1967, the federal contribution to postsecondary education has been established within the Federal-Provincial Fiscal Arrangements. Federal payments are made to provincial governments rather than to institutions. The federal assistance is comprised of cash and tax transfers. Québec received a special abatement of personal income tax points under the contracting-out arrangement and, consequently, receives less cash transfers. Under these arrangements, the total federal transfer was equivalent to 50 per cent of postsecondary education operating spending of a province or, at the province's option, to $15 per capita (for 1967-68) escalated annually according to the growth in postsecondary spending. The cash component represents the difference between total entitlements and the tax portion.

From 1973 to 1976, the total federal contribution was limited to an annual growth of 15 per cent, although the grant for an individual province could increase by more than this limit. In 1977, the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act changed the principle of federal financing of postsecondary education, hospital insurance and medical care. The previous cost-sharing formula was replaced by block funding. About one-third of the total Established Programs Financing (EPF) was allocated to postsecondary education and was unconditional. The financing formula was calculated on the basis of the 1976-77 federal contribution and of an escalator based on a three-year moving average of GNP growth and on population growth. At the beginning, the formula applied only to the cash portion (50 per cent) of the total transfer but this was changed in 1982 and since then, the formula covers the whole transfer. As a result of the federal anti-inflationary "6 and 5" program, growth in EPF payments to the provinces with respect to postsecondary education was limited to 6 per cent in 1983-84 and to 5 per cent in 1984-85. For 1986-87 and subsequent years, the escalator was based on GNP growth, from which two per cent was subtracted, and on population growth. Another one per cent was subtracted from the escalator in the 1989 federal budget. Recently the federal per capita contribution has been frozen at its 1989-90 level until 1994-95.

Governments are also involved in other educational programs such as retraining, research or official languages. Finally, governments support students who require financial assistance to carry on postsecondary education studies. At the federal level, financial aid to students is provided through the Canada Student Loans Plan.

Table 3.11

The Structure of Public Education Spending in Canada – 1989-90

($ billion unless otherwise indicated)

	Elementary-Secondary	Post-Secondary	Special Retraining	Other Education	Total
Federal					
Gross Spending	0.6	2.7	0.5	0.4	4.2
% of GDP	0.1	0.4	0.1	0.1	0.7
Direct Spending	0.6	0.4	0.5	0.2	1.7
% of GDP	0.1	0.1	0.1	0.0	0.3
Cash Transfers	-	2.3	-	0.2	2.5
% of GDP	-	0.4	-	0.0	0.4
Provincial					
Gross Spending	16.4	8.5	0.9	0.2	26.0
% of GDP	2.5	1.3	0.1	0.0	4.0
Direct Spending	2.3	8.5	0.9	0.2	11.9
% of GDP	0.4	1.3	0.1	0.0	1.8
Specific Transfers	14.1	-	-	-	14.1
% of GDP	2.2	-	-	-	2.2
Local	21.9	-	-	-	21.9
% of GDP	3.4	-	-	-	3.4
Total	24.8	8.9	1.4	0.4	35.5
% of GDP	3.8	1.4	0.2	0.1	5.5
Memorandum Item:					
Federal Tax Transfers	-	(3.5)	-	-	(3.5)
% of GDP	-	(0.5)	-	-	(0.5)

Sources: Financial Management System and Finance Canada.

3.2.2 The Structure of Education Spending in Canada

According to FMS data, total public education spending amounted to $35.5 billion or 5.5 per cent of GDP in 1989-90 (Table 3.11). Education spending is disaggregated into four components:

- Elementary and secondary spending includes outlays for educational services from kindergarten to senior matriculation. These services are provided at the local administration level in all provinces, except in New Brunswick and Newfoundland where they are provided at the provincial level. In other provinces, the administration of elementary-secondary education is the responsibility of locally elected or appointed school boards. Direct elementary and secondary

spending accounted, in 1989-90, for about 70 per cent of total public education spending, close to 90 per cent of which is spent at the local administration level.

- Postsecondary spending includes spending for educational services provided by colleges and universities and community or vocational institutions providing postsecondary diplomas. The share of postsecondary spending in total public education spending amounted to 25 per cent in 1989-90. Most of this amount is spent at the provincial level.

- The special retraining services component includes spending on career related, manpower and skills training and up-grading. This spending represented 4 per cent of public education spending in 1989-90.

- Finally, other education spending accounted for only 1 per cent of total public education spending in 1989-90. They cover the expenses of departments of education, the cost of research, apprenticeship training, official languages, evening and correspondence courses.

In total, about one third of direct education spending was accounted for at the provincial level in 1989-90. Provincial transfers for elementary-secondary education represented 57 per cent of spending on this component and were higher than direct spending. Spending at the local government level for elementary and secondary education amounted to 62 per cent of total public education spending. Finally, direct spending by the federal government, at $1.7 billion in 1989-90, represented only 5 per cent of total public education spending. However, federal cash and tax transfers financed 65 per cent of postsecondary education spending although this proportion can vary significantly across provinces.

Given that the bulk of direct education spending is done at the provincial-local level, the following analysis focuses exclusively on trends in this sector.

3.2.3 Recent Trends in Provincial-Local Education Spending

Provincial-local education spending declined from 24.2 per cent of total provincial-local spending in 1975-76 to 20.3 per cent in 1989-90. As a proportion of GDP, this represents a decline of 0.9 percentage points to 5.2 per cent.

As mentioned earlier, education spending can be disaggregated into four components. However, as the special retraining and the other

Table 3.12

Importance of Provincial-Local Education Spending – 1975-76 to 1989-90

(per cent of GDP)

	Elementary-Secondary		Postsecondary	
	1975-76	1989-90	1975-76	1989-90
Newfoundland	7.5	6.3	3.1	2.7
Prince Edward Island	8.4	5.5	2.4	2.0
Nova Scotia	5.9	5.8	2.1	1.6
New Brunswick	6.3	4.5	2.5	2.0
Québec	4.8	3.6	1.9	1.7
Ontario	3.9	3.8	1.4	1.0
Manitoba	5.0	4.1	1.8	1.2
Saskatchewan	3.8	3.9	1.4	1.4
Alberta	3.2	3.4	1.6	1.6
British Columbia	4.4	2.8	1.4	1.1
Yukon	7.3	6.2	0.3	1.9
Northwest Territories	7.3	6.3	0.0	2.3
Canada	4.3	3.7	1.6	1.3

Source: Financial Management System.

spending components represent only 4 per cent of the total, the following analysis concentrates on elementary-secondary and postsecondary education. The evolution of these two components relative to GDP is summarized in Table 3.12 for every province. Table 3.13 presents annual rates of growth of these components over the 1975-1989 period.

For Canada as a whole, elementary-secondary spending as a proportion of GDP fell from 4.3 to 3.7 per cent while the ratio of postsecondary spending declined from 1.6 to 1.3 per cent. Moreover, elementary-secondary spending grew 0.5 per cent faster than postsecondary spending on an annual basis over the 1975-1989 period.

All provinces, with the exception of Saskatchewan and Alberta, experienced a decline in their education spending as a proportion of GDP for both components. The most significant declines occurred at the elementary-secondary level in Prince Edward Island, New Brunswick, and British Columbia. The Yukon and Northwest Territories experienced a decline in their elementary-secondary spending ratio, but a sharp increase in their postsecondary spending ratio reflecting structural changes. Generally, the Atlantic provinces and the territories exhibit the highest ratios of education spending as a proportion of GDP. Among the Atlantic provinces and over the 14-year period, Nova Scotia had the highest nominal and per capita increase in elementary-secondary education spending. Over the 1975-1989 period, relatively modest growth was recorded in postsecondary education in Manitoba and in elementary-secondary education in British Columbia.

Table 3.13
Growth in Provincial-Local Education Spending -- 1975-76 to 1989-90
(per cent)

	Elementary-Secondary		Postsecondary	
	Nominal	Per Capita	Nominal	Per Capita
	(average annual growth)			
Newfoundland	8.6	8.3	8.9	8.6
Prince Edward Island	7.3	6.5	9.4	8.5
Nova Scotia	10.3	9.7	8.5	7.9
New Brunswick	7.9	7.4	8.6	8.0
Québec	7.6	7.0	8.7	8.1
Ontario	10.3	9.0	8.0	6.8
Manitoba	7.5	7.0	5.7	5.2
Saskatchewan	7.9	7.1	7.6	6.8
Alberta	10.0	7.6	9.3	6.9
British Columbia	6.6	4.9	8.3	6.5
Yukon	10.8	9.5	-[1]	-[1]
Northwest Territories	10.7	8.7	-[1]	-[1]
Canada	8.9	7.8	8.4	7.3

1. Not meaningful.

Source: Financial Management System.

3.2.4 Accounting for the Evolution in Provincial-Local Education Spending

Four types of factors are considered in the following analysis of the cost drivers in the education sector: the effect of demographic developments, the effective demand for educational services, the degree of relative real enrichment of programs, and the relative evolution of the price of educational services *vis-à-vis* the price of other goods and services in the economy. The two major components of education spending, elementary-secondary and postsecondary education services, are analyzed individually as they respond to a slightly different set of factors.

Elementary-Secondary Education

The analysis of underlying cost drivers of elementary-secondary education spending was done according to the following decomposition:

$$\frac{ESE}{GDP} = \frac{Pop_{5-17}}{Pop_{tot}} \cdot \frac{Enrol}{Pop_{5-17}} \cdot \frac{ESE/EPI/Enrol}{GDP/PGDP/Pop_{tot}} \cdot \frac{EPI}{PGDP}$$

(1) (2) (3) (4)

ESE = provincial-local spending on elementary-secondary education
GDP = nominal GDP
Pop_{5-17} = population aged between 5 and 17 years old
Pop_{tot} = total population
Enrol = elementary-secondary enrolment
EPI = elementary-secondary education price index
PGDP = GDP deflator

The first term, the demographic ratio, represents the ratio of the 5 to 17-year-old cohort -- an approximation of the elementary-secondary school-age population -- to total population. Other factors remaining constant, an increase in the proportion of school-age individuals should have an upward impact on elementary-secondary education spending.

The second term, the coverage ratio, corresponds to the ratio of enrolment in elementary and secondary schools[20], excluding enrolment in private and federal schools, to the population between 5 and 17 years old. It accounts for the intensity of the demand for elementary and secondary educational services by the school-age population. This ratio is an approximation because the population covered can be younger than 5 years old (pre-elementary) and older than 17 years old.

The third term is a measure of the relative real enrichment of programs. It relates real elementary-secondary education spending per student to real per capita production in the economy. When real spending per student increases at the same rate as real per capita production in a region, relative real enrichment is zero.

The last term, the relative price effect, represents the evolution of elementary-secondary education price index with respect to the GDP deflator. The education price index, calculated by Statistics Canada, reflects a wage and salary component as well as a non-wage component.

Table 3.14 presents the results of the decomposition of elementary-secondary education spending into its main determinants over

20. Source: Statistics Canada, Education in Canada, cat. 81-210 and 81-229.

Table 3.14

Accounting for the Evolution of Elementary and Secondary Education Spending

Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:			
		Demographic Ratio (1)	Coverage Ratio (2)	Relative Real Enrichment (3)	Relative Price Effect (4)
Newfoundland					
1975-89	0.842	0.738	1.077	1.120	0.946
1975-80	0.952	0.922	0.991	1.034	1.008
1980-85	0.921	0.885	1.072	1.027	0.945
1985-89	0.961	0.905	1.013	1.055	0.993
Prince Edward Island					
1975-89	0.654	0.730	1.078	0.759	1.095
1975-80	0.786	0.888	1.022	0.799	1.084
1980-85	0.972	0.876	1.036	1.003	1.067
1985-89	0.857	0.939	1.018	0.947	0.947
Nova Scotia					
1975-89	0.968	0.713	1.068	1.215	1.047
1975-80	1.165	0.885	1.005	1.154	1.136
1980-85	0.743	0.865	1.043	0.858	0.959
1985-89	1.119	0.931	1.018	1.227	0.962
New Brunswick					
1975-89	0.722	0.727	1.039	0.926	1.032
1975-80	1.009	0.891	0.994	1.066	1.068
1980-85	0.807	0.877	1.033	0.880	1.012
1985-89	0.887	0.930	1.012	0.987	0.955
Québec					
1975-89	0.753	0.706	0.987	1.027	1.052
1975-80	1.116	0.825	0.965	1.338	1.048
1980-85	0.837	0.883	1.022	0.909	1.020
1985-89	0.806	0.969	1.000	0.845	0.984
Ontario					
1975-89	0.988	0.722	1.129	1.050	1.154
1975-80	0.976	0.879	0.998	1.035	1.074
1980-85	1.003	0.868	1.056	0.981	1.115
1985-89	1.009	0.946	1.070	1.034	0.964
Manitoba					
1975-89	0.815	0.775	1.048	0.894	1.123
1975-80	0.865	0.896	0.989	0.956	1.021
1980-85	1.005	0.903	1.038	0.939	1.142
1985-89	0.938	0.958	1.021	0.996	0.964
Saskatchewan					
1975-89	1.025	0.784	1.042	1.003	1.251
1975-80	0.987	0.875	1.003	1.162	0.968
1980-85	1.126	0.909	1.035	0.999	1.199
1985-89	0.922	0.987	1.004	0.864	1.078
Alberta					
1975-89	1.070	0.743	1.056	1.571	0.868
1975-80	0.865	0.839	0.986	1.470	0.711
1980-85	1.097	0.902	1.035	1.154	1.018
1985-89	1.128	0.982	1.035	0.926	1.199
British Columbia					
1975-89	0.628	0.732	1.030	0.774	1.075
1975-80	0.748	0.860	0.997	0.875	0.997
1980-85	0.932	0.890	0.997	0.944	1.113
1985-89	0.901	0.957	1.037	0.937	0.969
Canada					
1975-89	0.871	0.725	1.066	0.972	1.158
1975-80	0.965	0.862	0.990	1.056	1.072
1980-85	0.945	0.881	1.037	0.960	1.078
1985-89	0.955	0.956	1.038	0.960	1.003

the 1975-1989 period. Three sub-periods are also analyzed. There are no calculations for the Yukon and the Northwest Territories as no information is available for some of the underlying cost factors. For Canada as a whole, elementary-secondary education spending as a proportion of GDP declined by 12.9 per cent. Every province except Saskatchewan and Alberta shared in this decline. The contribution of each factor to the evolution of the elementary-secondary education spending ratios will now be examined separately.

Demographic Ratio

The demographic ratio was the main factor contributing to the decline in the elementary-secondary education spending ratio in Canada as well as in every individual province. The proportion of the 5 to 17-year-old cohort in total population declined by more than 25 per cent in Canada over the 1975-1989 period. This phenomenon was spread across all provinces. There was, however, a slowdown in the decline of the demographic ratio throughout the period.

Coverage Ratio

The coverage ratio increased in every province over the 1975 to 1989 period with the exception of Québec where it declined slightly; the highest increase was recorded in Ontario (13 per cent). The growth in the coverage ratio was concentrated in the 1980s. This coincided with the upward trend observed in pre-elementary enrolment over this period. The growth in the number of adult learners enroling in regular day school programs also contributed to the increase in the coverage ratio. In addition, lower dropout rates were observed at the national level over the period covered. Finally, enrolment in private schools increased very rapidly in many provinces and applied downward pressures on the coverage ratio in these provinces. The larger increase in the enrolment ratio observed in Ontario may reflect a more rapid development of pre-school programs in this province: for example, the participation rate of 4 year-old children in school increased from 60 per cent in 1984 to 78 per cent in 1990. Pre-elementary enrolment in Ontario increased much more rapidly in recent years than in any other provinces.

It is interesting to note that the all-time high enrolment in elementary-secondary education was attained in 1970-71. Following 15 years of decline, total enrolment in Canada increased by 2.6 per cent between 1985-86 and 1989-90. Increases occurred in Ontario (6.0 per cent), British Columbia (4.7 per cent), Alberta (4.2 per cent), and

Saskatchewan (0.4 per cent). All other provinces, however, saw their enrolment decrease over the same period, with the largest declines occurring in Newfoundland (-8.6 per cent) and New Brunswick (-4.6 per cent).

Relative Real Enrichment

For Canada, over the 1975-1989 period, there was an 3-per-cent decline in the relative real enrichment (fourth column of Table 3.14) as real spending per student on elementary-secondary education grew slightly more slowly than real per capita economic growth. Some very pronounced provincial differences can be observed. In Alberta for example, the relative real enrichment increased 57 per cent over the 1975-1989 period. This factor accounts for most of the increase in the elementary-secondary education spending ratio of this province. Indeed, over the 1975-1979 period, new grants to school boards were implemented and funding to private institutions was enhanced in Alberta. However, the relative real enrichment declined by more than 20 per cent in Prince Edward Island and British Columbia over the 1975-1989 period. In British Columbia, the government sharply reduced approved capital spending of school boards in the 1980s.

The evolution of the relative real enrichment has been influenced by many factors such as the growth in the number of teachers, the evolution of the student-teacher ratio, the increase in wages (many provinces applied restrictions) and the importance of isolated communities (Newfoundland). For example, in Nova Scotia, the relative real enrichment has fluctuated dramatically. Relative real growth has been driven by large declines in enrolments and retention and concurrent increases in the number of teachers. In general, provinces implemented measures to stop the decline in the student-teacher ratio. The decline in the demographic ratio may have left some provinces, such as Alberta, Québec, Saskatchewan, and Nova Scotia for the 1975-1980 period, with unplanned real spending given the structures in place and the rigidities of the system.

Relative Price Effect

The relative price effect applied a significant upward pressure on the elementary-secondary education spending ratio at the national level over the 1975-1989 period. This was also the case in every province with the exception of Newfoundland and Alberta. The strongest increases in the relative price of education were recorded in Saskatchewan, Ontario, and Manitoba. Further, the relative price effect was the main determinant of

the increase in the elementary-secondary education spending ratio in Saskatchewan, the only province with Alberta to have experienced an increase in its spending ratio. In Saskatchewan, two factors may have contributed to higher spending through real expenses and prices: (1) the cost of migration from rural to urban centres and (2) the cost of educating Saskatchewan natives. Finally, salary settlements represent a key factor in the evolution of the price ratio and provinces have been generally concerned with constraining the growth of salaries in recent years.

A Detailed Examination of the Structure of Elementary-Secondary Spending

In 1986, teachers' salaries (including principals and vice-principals) represented 60 per cent of elementary-secondary education spending in Canada, administration 7 per cent, capital spending (including capital outlays and debt charges) 8 per cent, and other operating spending (including instructional supplies, conveyance, plant operation, and others) 24 per cent.

Table 3.15[21] depicts the evolution of the elementary-secondary cost structure per student over the period 1976 to 1986 (the last year for which published data are available). The top panel presents the annual growth rates in each jurisdiction. The bottom panel presents the contribution of the components to the growth in total spending per student. School board spending grew at an average annual rate of 9.9 per cent nationally with relatively little divergence across provinces. British Columbia and Québec exhibited the slowest growth at 8.5 and 9.5 per cent, respectively. Among the components, administration spending grew the fastest and capital spending the slowest, although there were substantial provincial differences in the growth of these components. In Newfoundland, for example, strong growth was recorded for administration and weak growth for capital spending. Saskatchewan and Alberta experienced strong growth in both components. The provincial distribution of growth of teachers' salaries and other operating spending was fairly even. The highest growth for teachers' salaries was recorded in Newfoundland and the lowest in British Columbia. In Newfoundland, strong pressures to compensate teachers on a comparable basis to teachers in other parts of the country were reported. The relatively high growth of teachers' salaries in Nova Scotia reflects the province's funding policy which has favoured

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21. These data from Statistics Canada are not fully reconcilable with the FMS figures, but provide a consistent picture of the cost structure.

Table 3.15
School Board Spending per Student -- 1976 to 1986

	Total Spending	Teachers' Salaries	Administration	Other Operating Spending	Capital Spending
	(average annual growth, per cent)				
Newfoundland	10.0	10.9	17.0	8.9	3.7
Prince Edward Island	10.6	10.0	12.7	10.8	12.2
Nova Scotia	10.7	10.8	10.6	10.3	11.0
New Brunswick	10.5	10.4	12.4	10.5	-
Québec	9.5	9.0	11.7	10.5	8.0
Ontario	10.0	10.3	10.5	10.5	6.0
Manitoba	10.6	10.5	8.6	11.0	12.0
Saskatchewan	10.5	9.3	13.2	11.9	13.3
Alberta	10.8	10.4	14.1	9.9	14.1
British Columbia	8.5	7.9	8.1	9.9	9.4
Canada	9.9	9.7	11.0	10.3	8.6
	(percentage contribution to total growth)				
Newfoundland	100	72.6	7.9	15.7	3.9
Prince Edward Island	100	59.2	7.0	20.5	13.2
Nova Scotia	100	68.4	4.6	19.4	7.7
New Brunswick	100	70.3	6.0	23.7	-
Québec	100	54.0	9.1	29.5	7.5
Ontario	100	64.3	7.7	23.5	4.5
Manitoba	100	56.6	7.1	24.0	12.3
Saskatchewan	100	53.1	5.2	32.2	9.5
Alberta	100	58.5	6.4	21.2	14.0
British Columbia	100	55.7	4.8	28.4	11.1
Canada	100	60.0	7.4	25.1	7.5

Sources: Statistics Canada, Financial Statistics of Education, Cat. 81-208 and Finance Canada.

general formula and special education funding over other spending categories. Finally, Newfoundland had the lowest growth for other operating spending and Saskatchewan the highest.

The large contribution of teachers' salaries to total growth is in line with the relative importance of this component. There are, however, significant provincial differences for every component. While teachers' salaries were a particularly important factor in explaining the growth in spending in Newfoundland, administrative spending contributed significantly in Québec as part of teacher-related spending, such as on job security, are treated as administrative spending. Saskatchewan is the province where other operating spending was relatively important in explaining total spending by school boards. Finally, capital spending added most to spending growth in Alberta.

Postsecondary Education

In order to analyze the factors explaining the evolution of postsecondary education spending as a proportion of GDP, the following decomposition was performed:

$$\frac{PSE}{GDP} = \frac{Pop_{18\text{-}24}}{Pop_{tot}} \cdot \frac{Enrol}{Pop_{18\text{-}24}} \cdot \frac{PSE/PEI/Enrol}{GDP/PGDP/Pop_{tot}} \cdot \frac{PEI}{PGDP}$$

(1) (2) (3) (4)

PSE	= provincial-local spending on postsecondary education
GDP	= nominal GDP
$Pop_{18\text{-}24}$	= population aged between 18 and 24 years old
Pop_{tot}	= total population
Enrol	= postsecondary full-time enrolment
PEI	= postsecondary education price index
PGDP	= GDP deflator

The demographic determinant of postsecondary education spending is now the ratio of the 18 to 24-year-old cohort to total population. The coverage ratio becomes the ratio of full-time postsecondary enrolment to the population aged between 18 and 24 years old. This measure is slightly biased upward as older people are also enroling in postsecondary education. In Québec, postsecondary education generally starts at 17 years old. Part-time enrolment is not retained because: there is no universal definition of part-time enrolment; there are no data on part-time enrolment in community colleges before 1982-83; and there are no full-time equivalent data for part-time enrolment in universities. The exclusion of part-time students will affect provincial results, especially where there are significant differences from the national average.

With respect to the calculation of the relative price effect, there is no published price index for postsecondary education spending. In this exercise, the deflator for spending on colleges and universities, which is part of consumer spending in the provincial economic accounts[22], was used.

Table 3.16 presents the results of the decomposition of the postsecondary education spending ratios into their main components for the

22. It is important to recall that spending by postsecondary establishments is treated as part of the personal sector in the National Accounts.

Table 3.16

Accounting for the Evolution of Postsecondary Education Spending

Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:			
		Demographic Ratio (1)	Coverage Ratio (2)	Relative Real Enrichment (3)	Relative Price Effect (4)
Newfoundland					
1975-89	0.882	0.957	1.867	0.641	0.770
1975-80	0.778	0.973	1.102	0.766	0.948
1980-85	0.858	1.004	1.454	0.716	0.821
1985-89	1.320	0.979	1.166	1.169	0.990
Prince Edward Island					
1975-89	0.855	0.924	1.459	0.742	0.854
1975-80	1.070	1.039	0.905	1.200	0.948
1980-85	0.770	0.993	1.250	0.665	0.932
1985-89	1.038	0.896	1.290	0.930	0.966
Nova Scotia					
1975-89	0.768	0.882	1.462	0.620	0.961
1975-80	0.969	1.029	0.958	0.866	1.136
1980-85	0.847	0.976	1.249	0.797	0.873
1985-89	0.935	0.878	1.223	0.899	0.969
New Brunswick					
1975-89	0.787	0.851	1.628	0.626	0.909
1975-80	0.874	0.997	1.011	0.733	1.184
1980-85	0.865	0.951	1.362	0.804	0.831
1985-89	1.042	0.897	1.183	1.063	0.924
Québec					
1975-89	0.875	0.767	1.710	0.711	0.939
1975-80	1.072	1.024	1.101	0.975	0.975
1980-85	0.934	0.896	1.341	0.782	0.994
1985-89	0.874	0.836	1.158	0.932	0.968
Ontario					
1975-89	0.740	0.859	1.387	0.662	0.939
1975-80	0.893	1.023	1.003	0.910	0.957
1980-85	0.960	0.958	1.176	0.833	1.023
1985-89	0.862	0.876	1.175	0.873	0.959
Manitoba					
1975-89	0.641	0.845	1.212	0.604	1.037
1975-80	0.730	1.006	0.898	0.744	1.086
1980-85	0.955	0.951	1.235	0.850	0.957
1985-89	0.919	0.883	1.092	0.955	0.998
Saskatchewan					
1975-89	0.991	0.833	1.568	0.747	1.016
1975-80	0.684	1.050	0.915	0.735	0.969
1980-85	1.539	0.941	1.339	1.208	1.011
1985-89	0.942	0.844	1.280	0.841	1.037
Alberta					
1975-89	0.973	0.811	1.403	1.092	0.783
1975-80	0.753	1.143	0.753	1.196	0.732
1980-85	1.137	0.833	1.494	0.999	0.915
1985-89	1.136	0.851	1.248	0.914	1.170
British Columbia					
1975-89	0.782	0.795	1.366	0.704	1.022
1975-80	0.984	1.014	0.915	1.039	1.022
1980-85	0.878	0.881	1.250	0.790	1.009
1985-89	0.905	0.890	1.195	0.858	0.992
Canada					
1975-89	0.818	0.824	1.485	0.653	1.024
1975-80	0.918	1.033	0.993	0.866	1.033
1980-85	1.113	0.920	1.274	0.980	0.969
1985-89	0.801	0.867	1.173	0.770	1.024

1975-1989 period and three sub-periods. For Canada as a whole, postsecondary education spending as a proportion of GDP declined 18 per cent. Every province shared in this trend with less pronounced declines in Saskatchewan and Alberta. The contribution of each factor to the evolution of the postsecondary spending ratios is analyzed below.

Demographic Ratio

As with elementary-secondary education, a decline in the demographic ratio made a significant contribution to the overall decline in the postsecondary spending ratio. The proportion of the 18 to 24-year-old cohort in total population declined by 17.6 per cent at the national level over the 1975-1989 period. The demographic ratio declined in every province but less so in the Atlantic region. The decline was particularly small in Newfoundland. In general, there was an acceleration in the decline of the demographic ratio through the period. This was not the case, however, in Alberta and British Columbia.

Coverage Ratio

Unlike elementary-secondary education, the coverage ratio, the full-time postsecondary education enrolment over population in the targeted cohort, increased significantly in every province. The highest increases were recorded in Newfoundland (87 per cent), Québec (71 per cent), and New Brunswick (63 per cent). The smallest increase occurred in Manitoba (21 per cent). The strongest growth in the coverage ratio was generally recorded in the 1980-1985 period. In Ontario, for example, university enrolment also increased because of changes in the secondary school curriculum which allowed students to complete high school more quickly.

Total enrolment in Canada grew at an average annual rate of 2.5 per cent over the 1975-1989 period, much more rapidly than population (1 per cent). Meanwhile, the number of full-time teachers increased at an average annual rate of 1.8 per cent. Finally, the number of postsecondary institutions rose by almost 6 per cent in Canada between 1975 and 1989. There were 270 institutions in 1989-90, of which 69 universities, compared to 256 in 1975-76.

Many factors may have contributed to the strong growth in postsecondary enrolment:

- The increased enrolment of women who represented 49.1 per cent of full-time enrolment in universities in 1987-88 compared to 45.6 per cent in 1976-77.

- A higher proportion of students graduating from high school.

- The increased participation of adults as more emphasis is placed on life-long learning. Life-long learning reflects, in part, the need for individuals to adapt to a continually changing economic environment through the acquisition of new skills.

- The increased qualification requirements for employment. The proliferation of information technology in particular has placed demands for higher levels of education for entry level jobs.

- The longer length of stay in schools, reflecting lower dropout rates, reduced job opportunities in the early 1980s, and the increasing opportunities for combining part-time work with education.

- The supply of places was increased, with the expansion of existing facilities, the addition of new facilities, and the offering of new courses and programs.

- The economic recession of 1981-1982 and its aftermath encouraged students to stay for a longer period at the university and young workers to come back.

- Postsecondary education continued to gain in social prestige and value. Highly educated parents encourage their children to pursue their education.

- Increasing urbanization meant that a higher proportion of the population was close to educational opportunities.

Relative Real Enrichment

There was a significant decline in the relative real enrichment (column four of Table 3.16) over the 1975-1989 period at the national level. Only Alberta showed an increase in its relative real enrichment, which contributed to a much smaller decline than in almost all other provinces of

its postsecondary education spending ratio. It is also noted that Newfoundland and New Brunswick showed an increase in the real enrichment ratio over the 1985-1989 period. A number of provinces applied partial indexation to university budgets or even a freeze on nominal transfers (for example British Columbia in the 1980-1985 period). In the 1975-1980 period, new facilities were added in Alberta and British Columbia and explain the increase in the real enrichment ratio for that period. Finally, the teacher-student ratio fell in Canada during the 1980s.

Relative Price Effect

The relative price effect applied only modest upward pressure on the postsecondary education spending ratio at the national level over the 1975-1989 period. It is interesting to note that the relative price effect was generally stronger in the 1985-1989 period than in the 1980-1985 period. Price pressures were strongest in Alberta and Saskatchewan for the 1985-1989 period. Only three provinces, Manitoba, British Columbia, and Saskatchewan, experienced upward pressures from the price ratio for the period as a whole.

A Detailed Analysis of the Structure of Postsecondary Spending Per Student

In 1986-87, operating spending (including sponsored research) represented 79 per cent of total postsecondary education spending in Canada. The corresponding figure for scholarships, student aid and other departmental spending was 14 per cent, while it was 7 per cent for capital spending. Salaries and fringe benefits represented some 67 per cent of university operating spending including sponsored research in the same year. Table 3.17[23] depicts the evolution of the postsecondary cost structure per student over the period 1976-77 to 1986-87 (the last year for which published data are available). Annual growth rates for these components by jurisdiction are presented in the top panel. Postsecondary education spending per full-time student grew 6.8 per cent nationally over the period covered. The highest growth was recorded in Alberta and the lowest in Newfoundland. Among the components, scholarships, student aid, and other departmental spending grew the fastest at 8.5 per cent. Provincial growth rates varied considerably (from 2.8 per cent in Ontario to 13.1 per cent in New Brunswick). The second fastest growing component

23. These data are not fully reconcilable with FMS data, but provide a consistent picture of the cost structure.

Table 3.17
Postsecondary Education Spending Per Full-Time Student 1976-77 to 1986-87

	Total Spending	Operating Spending	Capital Spending	Scholarships, Student aid, and Other
	(average annual growth, per cent)			
Newfoundland	3.6	3.4	10.2	3.1
Prince Edward Island[1]	-	-	-	-
Nova Scotia	8.6	9.2	0.3	9.8
New Brunswick	7.0	5.9	6.1	13.1
Québec	6.3	5.5	4.5	12.2
Ontario	6.4	6.7	9.1	2.8
Manitoba	8.2	8.0	16.1	8.0
Saskatchewan	7.1	6.2	10.5	10.3
Alberta	9.6	8.4	13.5	12.3
British Columbia	6.2	6.0	0.2	12.4
Canada	6.8	6.5	7.6	8.5
	(percentage contribution to total growth)			
Newfoundland	100	77.8	10.0	12.2
Prince Edward Island[1]	100	-	-	-
Nova Scotia	100	87.3	0.3	12.4
New Brunswick	100	66.7	4.8	28.5
Québec	100	70.9	5.1	24.0
Ontario	100	88.6	6.5	4.9
Manitoba	100	81.4	4.5	14.2
Saskatchewan	100	70.6	13.2	16.2
Alberta	100	64.7	19.9	15.4
British Columbia	100	79.9	0.2	19.9
Canada	100	76.6	7.5	15.8

1. Structural changes.

Sources: Statistics Canada, Financial Statistics of Education, Cat. 81-208 and Finance Canada.

was capital spending at 7.6 per cent with again a large spread between the provinces (from 0.2 per cent in British Columbia to 16.1 per cent in Manitoba). There were less inter-provincial differences in the growth rates of operating spending.

The contribution by component to total growth is presented in the bottom panel of Table 3.17. At the national level, operating spending contributed the most at 76.6 per cent, but slightly less than their share of total spending. The contribution of this component was relatively low in Alberta (64.7 per cent) and relatively high in Ontario (88.6 per cent). The contribution of scholarships, student aid, and other spending was second at 15.8 per cent, more than its relative weight. This component contributed

the most in New Brunswick (28.5 per cent) and Québec (24.0 per cent) and the least in Ontario (4.9 per cent). Finally, the contribution of capital spending was relatively high in Alberta.

3.2.5 Conclusions

The main conclusions of the preceding analysis are:

- Elementary-secondary and postsecondary spending at the provincial-local level did not keep pace with economic activity and declined as a proportion of both program and total spending.
- The decline in spending as a proportion of GDP was slightly more pronounced for postsecondary education.
- Despite a more significant decline, education spending as a proportion of GDP remained significantly higher in the Atlantic provinces.

Elementary-Secondary Education

- The main contributing factor to the decline in elementary-secondary spending as a proportion of GDP was the declining proportion of the corresponding school-aged population in total population. The demographic ratio declined by about 25 per cent in each province.
- The coverage ratio (enrolment to school-aged population) increased in all provinces with the exception of Québec. This higher participation reflected an upward trend in pre-elementary enrolment, higher adult learner enrolment, and lower dropout rates.
- In general, there was no relative real enrichment of the programs although significant provincial differences are noted. The decline in the student-teacher ratio was stopped and capital spending was restrained.
- The elementary-secondary education spending deflator grew more rapidly than the overall price level of the economy in the late 1970s and early 1980s, but not in the most recent period. A number of provinces introduced measures to restrain wages in the 1980s.
- Teachers' salaries accounted for almost two thirds of the growth in elementary-secondary education spending per student reflecting their relative importance in the sector's costs. Other operating spending

accounted for 25 per cent and capital spending and administration for 7.5 per cent each.

Postsecondary Education

- The demographic ratio (the proportion of the 18 to 24-year-old cohort in total population) was an important factor in explaining the decline in the postsecondary spending as a proportion of GDP. The demographic ratio declined 17 per cent at the national level, although less so in the Atlantic provinces.

- The coverage ratio (enrolment to school-aged population) more than offset the decline in the demographic ratio. Many factors may have contributed to the growth in enrolment:

  - Higher participation of women.
  - Increasing number of high school graduates.
  - Higher adult participation.
  - New employment requirements.
  - Increased length of stay.
  - New facilities and programs.
  - Recession of 1981-1982.
  - Increasing value attached to education.

- There was marked negative relative real enrichment as provinces applied tight controls to budgets while the price component followed the evolution of the general price level.

- Every component of postsecondary education spending grew moderately, with operating spending (of which wages are the major component) showing the lowest rate of increase. However, operating spending accounted for 77 per cent of the growth in postsecondary spending per full-time student, capital spending for 7 per cent, and scholarships, student aid and other for 16 per cent.

- Overall, despite the strong increase in the demand for postsecondary education, governments generally were able to offset this pressure by limiting the growth of costs per student.

3.3 Accounting for the Growth in Social Services Spending

This sub-section examines the factors that contributed to the growth in government spending on social services. The first section briefly reviews the development of social services programs in Canada. The second section examines the structure of social services spending, and in particular the contribution of each level of government to the provision of the various programs. The third section analyzes recent trends in major federal and provincial-local social services programs. The final section reviews selected factors accounting for the growth in spending on these programs.

3.3.1 Development of the Social Services Infrastructure in Canada

At the time of Confederation, constitutional responsibility for social services was not clearly defined because governments provided few social services. At the beginning of the 1900s, a number of economic and social developments prompted the implementation of social programs in this country. In particular, the transition from a farming and rural to an urban and industrialized society resulted in an increase in the number of wage earners and a decline of the extended family as a unit of production and support for its members. The financial vulnerability of smaller wage earning family units led to pressure on governments to provide safety nets.

Following World War I, the federal government established a program of pensions for disabled officers and soldiers, as well as for widows and orphans of soldiers killed on active duty. At the same time, some private enterprises initiated pension funds for their employees. The federal government also established a pension fund for its public servants. Following these examples and in light of the greater financial vulnerability associated with retirement, several groups urged the federal government to extend this type of protection to the majority of the elderly. The federal government adopted in 1927 the Old Age Pensions Act that was later superseded by the Old Age Security Act and in 1951 by the Old Age Assistance Act. Under the Old Age Pensions Act, provinces were responsible for the administration of the pension plans but the costs were shared between them and the federal government. As early as 1916, provincial legislation providing financial assistance for mothers with dependant children was enacted.

The economic crisis of 1929 and the Great Depression which followed changed attitudes to unemployment. In 1933, an estimated 26 per cent of adult males were unemployed and about 20 per cent of the total population needed financial assistance. Unemployment was considered

less a result of a personal failure than a consequence of broader economic forces. Some municipal and provincial governments were confronted with serious financial problems and were unable to help the large number of unemployed. Gradually, provincial and federal governments collaborated in the creation of income support programs.

The federal Employment and Social Insurance Act of 1935 was the first effort to establish a national unemployment insurance program in Canada. This law was, however, declared unconstitutional by the Supreme Court of Canada on the basis that it was an intrusion into provincial jurisdiction. However, following pressure from labour unions, political negotiations, and the recommendation of the Rowell-Sirois Commission, the first unemployment insurance program became effective in 1940 with the approval of the provinces.

In the 1940s and 1950s, the federal government initiated a number of programs in the social security domain, including the Family Allowances Act, the Blind Persons Act, the Disabled Persons Act and the Unemployment Assistance Act. Over the same period, provinces also initiated a number of specific programs. A complete system of provincial mothers' allowances was established in 1950. These allowances were the first social assistance measures established by provincial governments to overcome the inadequacies of local assistance.

In order to secure the nation-wide universality of these programs, while respecting regional differences, the Canada Assistance Plan was implemented in 1965. This shared-cost program provides financial assistance to provinces, conditional on their own social aid legislation respecting universality and access to appeal mechanisms.

Since the mid-1960s, the structure of the major social programs in Canada has remained almost unchanged. The only major development has been the introduction of the child tax credit in 1979 and the related modifications to family allowances.

3.3.2 The Structure of Social Services Spending in Canada

Table 3.18 presents a breakdown of social services spending by type of program and level of government. In 1989-90, total social services spending reached $60.8 billion, or 9.4 per cent of GDP. Direct spending by the federal government, amounting to $37.7 billion, accounted for more than 60 per cent of this total. Direct spending by provincial governments

Table 3.18

The Structure of Social Services Spending in Canada – 1989-90

($ billion unless otherwise indicated)

	Old Age Security	Unemployment Insurance	Family Allowances	Social Welfare	Tax Credits and Rebates	Other	Total
Federal							
Total Spending	16.2[1]	11.7	2.7	7.8	2.9	1.9[2]	43.3
% of GDP	(2.5)	(1.8)	(0.4)	(1.2)	(0.5)	(0.3)	(6.7)
Direct Spending	16.2	11.7	2.7	2.3	2.9	1.9	37.7
% of GDP	(2.5)	(1.8)	(0.4)	(0.4)	(0.5)	(0.3)	(5.8)
Specific Transfers	-	-	-	5.6	-	-	5.6
% of GDP	-	-	-	(0.9)	-	-	(0.9)
Provincial							
Total Spending	-	-	0.2	13.4	1.9	5.6[2]	21.1
% of GDP	-	-	(0.04)	(2.1)	(0.3)	(0.9)	(3.2)
Direct Spending	-	-	0.2	12.0	1.9	5.6	19.7
% of GDP	-	-	(0.04)	(1.9)	(0.3)	(0.9)	(3.0)
Specific Transfers	-	-	-	1.3	-	-	1.3
% of GDP	-	-	-	(0.2)	-	-	(0.2)
Local							
Total Spending	-	-	-	2.4	-	-[3]	2.4
% of GDP	-	-	-	(0.4)	-	-	(0.4)
Total	16.2	11.7	2.9	16.7	4.8	7.5	60.8
% of GDP	(2.5)	(1.8)	(0.5)	(2.6)	(0.8)	(1.2)	(9.4)

1. Includes Old Age Security pensions, the Guaranteed Income Supplement and the Spouses' Allowance.

2. Includes employers' contributions to CPP/QPP (federal: $0.2 billion; provincial: $0.1 billion), Workers' compensation (federal: 0.04 billion; provincial: $4.2 billion), and other social services (federal: $1.7 billion; provincial: $1.3 billion).

3. Negligible.

Source: Financial Management System.

totalled $19.7 billion in 1989-90, representing 32 per cent of the total, while direct social services spending by local governments totalled only $2.4 billion.

3.3.2.1 Federal Government

The federal government is entirely responsible for Old Age Security (OAS) and Unemployment Insurance (UI) while partly responsible for family allowances. Total spending on these three programs amounted to

$30.6 billion, or 71 per cent of gross federal spending on social services[24] in 1989-90. In addition, total federal social welfare spending reached $7.8 billion, or approximately 18 per cent of gross federal social services spending. However, more than two thirds of this amount consisted of cash transfers to the provinces, mainly through the Canada Assistance Plan (CAP)[25]. The other third was spent on a number of programs including Vocational Rehabilitation of Disabled Persons, Social Assistance and Social Services for Indians. Other federal social services spending includes tax credits and rebates, as well as its contributions as an employer to the Workers' Compensation Plan, the Canada Pension Plan (CCP), and the Québec Pension Plan (QPP). These totalled $4.8 billion or 11.1 per cent of total federal social services spending in 1989-90.

3.3.2.2 Provincial-local governments

Social welfare payments, which comprise assistance and services to families and individuals in need such as the aged, the young, and the handicapped, accounted for the bulk of social services spending by provincial and local governments. In 1989-90, direct provincial spending on social welfare totalled $12.0 billion, which represented 1.9 per cent of GDP and almost 60 per cent of gross provincial spending on social services. Other direct payments, including workers' compensation benefits of $4.2 billion (protection against wage loss due to occupational injury or disease), totalled $5.6 billion, while tax credits and rebates amounted to $1.9 billion.

Local government social services spending is almost entirely comprised of social welfare payments. In 1989-90, local social services spending amounted to $2.4 billion of which over 50 per cent was financed by provincial transfers.

3.3.3 Recent Trends in Social Services Programs

Between 1975-76 and 1989-90, social services spending in Canada grew at an average annual rate of 10.3 per cent. The highest growth was recorded at the provincial level. Provincial social services

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24. Net spending on these programs is lower than the reported figures because the benefits are subject to taxation. In the case of the Unemployment Insurance (UI) program, following the recent amendments, there is no net cost to the federal government with the exception of transitory imbalances in the UI account and of its own contributions as an employer.

25. This amount does not include tax transfers to Québec as a result of a special agreement.

spending grew at an average annual rate of 11.5 per cent, compared with 9.7 per cent and 11.4 per cent for the federal government and local governments, respectively. The recession of 1981-1982 caused a large jump in the growth of social services spending; growth in 1982-83 was in excess of 25 per cent at all three levels of government.

From 1975-76 to 1981-82, total social services spending in Canada declined as a proportion of GDP. However, as a result of the recession, total social services spending increased from 8.3 to 10.4 per cent of GDP between 1981-82 and 1983-84. In the wake of the recovery that followed, the proportion of social spending to GDP resumed its downward trend but remained at 9.4 per cent in 1989-90.

The share of social services in program spending for the total government sector increased from 23.7 per cent in 1975-76 to 26.5 per cent in 1989-90. All levels of government experienced an increase in their corresponding share which rose from 35.4 to 39.3 per cent at the federal level, from 14.3 to 17.8 per cent for the provincial sector and from 3.5 to 4.6 per cent at the municipal level.

3.3.3.1 Federal Social Services Programs

Total federal social services spending grew at an average annual rate of 9.7 per cent between 1975-76 and 1989-90 (Table 3.19). The fastest growing components were tax credits and rebates, social welfare and OAS. While tax credits and rebates increased at an average annual rate of 11.7 per cent between 1979-80 and 1989-90, they represented only a small portion of federal social services spending. The growth rate for OAS[26] and social welfare spending was 10.7 per cent over the covered period. As a proportion of GDP, OAS increased from 2.3 per cent to 2.5 per cent and social welfare from 1.1 per cent to 1.2 per cent. In 1975-76, UI benefits amounted to 1.9 per cent of GDP. As a result of the 1981-1982 recession, these benefits climbed to 2.7 per cent of GDP in 1982-83. Since then, the economic recovery has allowed the proportion of UI spending to GDP to decline to 1.8 per cent in 1989-90. Other social services spending increased at an average annual rate of 6.9 per cent since 1975-76 and represented 0.3 per cent of GDP in 1989-90.

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26. Includes Old Age Security (OAS) pensions, the Guaranteed Income Supplement (GIS) and the Spouses' Allowance (SA) programs.

Table 3.19
The Growth of Federal Social Services Spending in Canada 1975-76 to 1989-90
(Average annual rates of growth)

	Old Age Security	Unemployment Insurance	Family Allowances	Social Welfare	Tax Credits and Rebates	Other	Total
1975-76 to 1990-91	10.7	9.4	2.2	10.7	11.7[1]	6.9	9.7
1975-76 to 1980-81	13.5	7.3	-1.1	11.0	33.2[1]	8.2	10.6
1980-81 to 1985-86	11.0	16.9	6.2	13.3	3.0	8.7	12.0
1985-86 to 1990-91	6.7	3.1	1.5	7.4	18.2	3.3	5.9

1. For the period beginning in 1979-80.

Source: Financial Management System.

3.3.3.2 Provincial social services programs[27]

Total provincial social services spending grew at an average annual rate of 11.5 per cent over the 1975-1989 period or 10.3 per cent on a per capita basis (Table 3.20). The average annual rate of growth in per capita social welfare[28] spending was 10 per cent between 1975-76 and 1989-90. The growth in per capita social welfare payments varied significantly across provinces and territories. The strongest growth was recorded in the Northwest Territories (15.3 per cent) and the weakest in Saskatchewan (6.6 per cent).

Annual per capita growth in workers' compensation benefits exceeded that of any other major social services program. These benefits grew at an average annual rate of 13.1 per cent between 1975-76 and 1989-90. There were considerable provincial/territorial differences in the growth rates of these benefits. Growth exceeded the national average in the Northwest Territories, Ontario and Manitoba, while British Colombia

27. Inter-provincial comparisons of social services programs would be more accurately carried at the provincial-local level. However, the analysis had to be carried using provincial data (including transfers) due to the unavailability of consolidated provincial-local data at the sub-function level.

28. Includes general assistance programs and specific programs for children, disabled, adults, etc.

Table 3.20

The Growth of Provincial Social Services Spending in Canada 1975-76 to 1989-90

(Average annual rates of growth)

	Social Welfare		Tax Credits and Rebates		Worker's Compensation		Other		Total	
	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita	Nominal	Per Capita
Newfoundland	10.5	10.2	-	-	11.2	10.9	11.8	11.5	10.7	10.4
Prince Edward Island	9.7	8.9	-	-	8.8	8.0	10.3	9.5	9.7	8.9
Nova Scotia	11.9	11.3	0.1	-0.4	10.2	9.6	13.9	13.2	11.4	10.8
New Brunswick	9.8	9.2	0.1	-0.5	9.2	8.6	16.3	15.6	10.0	9.4
Québec	14.6	14.0	26.2	25.5	9.5	8.9	12.7	12.0	11.6	11.0
Ontario	12.7	11.4	5.9	4.7	15.9	14.6	17.4	16.1	12.1	10.9
Manitoba	12.1	11.6	7.7	7.2	15.6	15.0	8.8	8.3	11.0	10.5
Saskatchewan	7.4	6.6	-2.7[1]	-3.4[1]	10.1	9.2	3.7	2.9	7.8	7.0
Alberta	14.2	11.7	16.4	13.8	14.8	12.2	12.0	9.6	14.3	11.8
British Colombia	8.5	6.8	7.7	6.0	9.4	7.6	17.6	15.7	9.0	7.2
Northwest Territories	17.5	15.3	-	-	20.1[2]	17.3[2]	-	-	17.1	14.9
Yukon	8.2	6.8	-	-	13.9	12.5	-	-	8.2	6.9
Canada	11.2	10.0	8.0	6.9	14.3	13.1	13.2	12.0	11.5	10.3

1. For the period beginning in 1976-77.

2. For the period beginning in 1978-79.

Source: Financial Management System.

recorded the lowest rate of growth. As a proportion of GDP, spending on workers' compensation benefits reached 0.6 per cent in 1989-90, compared to 0.4 per cent in 1975-76.

Finally, other spending on social services includes employers' contributions to CPP/QPP, Québec Family Allowances, Indian Affairs, and spending on administration, planning, investigation and counselling services not classified in other categories. This component increased at an average annual rate of 12.0 per cent on a per capita basis over the period. However, there were major differences among provinces and territories. The highest growth rates were recorded in Ontario (16.1 per cent), British Columbia (15.7 per cent) and New Brunswick (15.6 per cent) and the lowest in Saskatchewan (2.9 per cent) and Manitoba (8.3 per cent).

3.3.4 Factors Affecting the Growth in Federal Social Services Programs

Sub-Section 3.3.2 indicated that direct federal spending on social services was largely accounted for by three programs: OAS, UI and Family

Allowances. This sub-section examines the evolution of these programs using a standard decomposition method.

i) Old Age Security payments

The OAS program is the cornerstone of the income security system for retired Canadians. It features three types of payments: old age pensions, the guaranteed income supplement and the spouses' allowance. Old age pensions are monthly payments to all Canadians aged 65 and over who have resided in Canada for at least 10 years immediately preceding the date of approval of their application. The guaranteed income supplement provides income-tested benefits to old age pensioners who have limited revenues from other sources. Finally, the Spouses' Allowance program basically provides an income-tested pension to spouses, aged 60 to 64, of recipients of the old age pension.

The amount spent on these programs is a function of socio-economic, demographic and discretionary factors. The aging of the Canadian population means that more people are receiving benefits, which is driving up the cost of these programs. The level of economic activity and the rate of inflation also affect the growth of OAS spending; the level of activity has an impact on the way Canadians retire and on their level of income, while benefits are indexed to inflation.

The contribution of these factors to the evolution of the three programs included in Old Age Security can be estimated by performing a standard decomposition. For example, in the case of old age pensions the decomposition retained is:

$$\frac{OAS}{GDP} = \frac{POP_{65+}}{POP} \cdot \frac{PBEN}{POP_{65+}} \cdot \frac{OAS/OASIF/PBEN}{GDP//PGDP/POP} \cdot \frac{OASIF}{PGDP}$$

(1) (2) (3) (4)

OAS = total spending on old age pensions
GDP = nominal GDP
POP_{65+} = number of people aged 65 and over
POP = total population
PBEN = number of pension beneficiaries
OASIF = the old age pensions indexation factor
PGDP = GDP deflator

The first element of this equation, the demographic ratio, measures the proportion of the population aged 65 and over in total population. The second element reflects the coverage of the program, that is the number of beneficiaries as a proportion of the population aged 65 and over. Throughout the period under review, this ratio was affected by discretionary changes to the program that impacted on the eligibility for benefits. The third element relates the real benefits of old age pensions per beneficiary to real output per capita in the economy. This is a measure of the relative enrichment of the benefits. The last element reflects the degree to which benefits are protected from rising inflation.

Similar decompositions are done for the other two programs, namely the Spouses' Allowance and the Guaranteed Income Supplement. In the case of the Spouses' Allowance, the parameters that reflect the demographic and coverage ratios are defined differently. The demographic ratio represents the proportion of the population aged between 60 and 64 years old in total population. As well, the coverage ratio is defined as the number of beneficiaries divided by the population aged between 60 and 64 years old.

Table 3.21 presents the contribution of these factors to the evolution of the spending ratios for each of the three programs. The aging of the population has been the most important factor underlying the increase in the Old Age Pensions and the Guaranteed Income Supplement spending ratios. Between 1975 and 1989, the proportion of the population aged 65 and over increased by 33 per cent. It has also been a significant factor in the case of the Spouses' Allowance program, although the impact has been less pronounced. For this latter program, the dominant factor has been the increase in the coverage ratio. This increase mainly reflects the eligibility, since September 1985, of widows aged between 60 and 64, whether or not their spouses previously received the guaranteed income supplement.

The impact of the relative price effect was small because payments were indexed to the Consumer Price Index (CPI). The positive contribution of this factor does not reflect any discretionary changes but simply the fact that the CPI increased faster than the GDP deflator over this period.

For the entire period, real benefits per beneficiary in relation to real GDP per capita declined for each program. This reflects the indexation of benefits to inflation -- there is no automatic link to increases in productivity. Moreover, in the case of the income-tested Guaranteed Income Supplement and the Spouses' Allowance programs, the rapid growth in other forms of personal income received by this age group resulted in

Table 3.21
Accounting for the Evolution of Old Age Benefits
Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:			
Old Age Pensions		Demographic Ratio (1)	Coverage Ratio (2)	Relative Real Enrichment (3)	Relative Price Effect (4)
1975 to 1989	1.05	1.33	1.00	0.73	1.08
1975 to 1980	0.99	1.11	0.99	0.89	1.01
1980 to 1985	1.08	1.09	1.00	0.93	1.06
1985 to 1989	0.98	1.09	1.00	0.89	1.01
Guaranteed Income Supplement					
1975 to 1989	1.11	1.33	0.82	0.95	1.08
1975 to 1980	1.15	1.11	0.95	1.08	1.01
1980 to 1985	1.12	1.09	0.95	1.02	1.06
1985 to 1989	0.86	1.09	0.91	0.85	1.01
Spouses' Allowance[1]					
1980 to 1989	1.24	1.11	1.31	0.80	1.07
1980 to 1985	1.27	1.13	1.05	1.01	1.06
1985 to 1989	0.98	0.98	1.25	0.79	1.01

1. Since this program was introduced gradually in the second half of the 1970's, the analysis begins in 1980.

some reduction in eligibility for full benefit levels. For example, other income was boosted by high interest rates and the emergence of other retirement savings plans (participation in which has been encouraged via taxation incentives). Overall, it would be inappropriate to conclude that the real income of OAS recipients has declined relative to real income per capita in the economy on the basis of these results.

ii) Unemployment Insurance benefits

The main objective of the federal UI program is to provide income protection for workers suffering temporary employment income interruption. UI payments as a proportion of GDP have fluctuated considerably over the last 15 years. Changes in the UI program and the sensitivity of the program to economic conditions are the main causes of these variations.

The following decomposition illustrates the role of a number of factors in the evolution of the ratio of UI spending to GDP:

$$\frac{UCE}{GDP} = \frac{POP_{15-64}}{POP} \cdot \frac{LF}{POP_{15-64}} \cdot \frac{UN}{LF} \cdot \frac{NWP}{UN} \cdot \frac{UCE/NWP}{GDP/POP}$$

(1) (2) (3) (4) (5)

UCE = total spending on unemployment insurance
GDP = nominal GDP
POP_{15-64} = number of people between 15 and 64 years old
POP = total population
LF = total labour force
UN = number of unemployed
NWP = number of weeks paid

The first two terms, the ratio of the population aged between 15 and 64 years old to total population and the participation rate, account for demographic influences and changes in attitude toward participation in the labour market. The third term is the unemployment rate. An increase in the unemployment rate puts upward pressures on the cost of the UI program. The fourth term, the coverage ratio, represents the proportion of the number of weeks paid during a year to the number of unemployed. A tightening of the eligibility criteria to the program would result in a decline in this ratio. The fifth term reflects a notion of relative nominal enrichment. It compares the average weekly payments to per capita output. Many factors influence this ratio such as average weekly industrial earnings, maximum weekly insurable earnings, and the participation rate.

Table 3.22 shows the contribution of each factor to the proportion of UI spending to GDP for the 1975-1989 period and some sub-periods. Demographic factors applied limited upward pressures on the cost of the UI program over the last 15 years. The proportion of the working-age population in total population increased slightly over this period. The increase in the participation rate was more significant, mostly reflecting the increased participation of women in labour markets. Over the whole period, the unemployment rate also applied upward pressures on the cost of the UI program. Its impact was very significant during the 1980-1985 sub-period as a result of the 1981-1982 recession. However, the unemployment rate applied downward pressures on the cost of the program over the 1985-1989 period reflecting relatively strong economic growth. The coverage of the program or the number of weeks paid in relation to the number of people unemployed did not impact much on the spending-to-GDP ratio over the whole period. However, between 1975 and 1980, the

Table 3.22
Accounting for the Evolution of Unemployment Insurance Benefits
Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:				
		Demographic Ratio (1)	Particip. Ratio (2)	Unemp. Rate (3)	Coverage Ratio (4)	Relative Nominal Enrichment (5)
1975 to 1989	0.93	1.04	1.13	1.09	0.97	0.75
1975 to 1980	0.79	1.04	1.06	1.08	0.78	0.85
1980 to 1985	1.41	1.01	1.03	1.40	1.08	0.90
1985 to 1989	0.83	1.00	1.04	0.72	1.15	0.96

coverage ratio dropped considerably when stricter eligibility requirements were introduced. The increase in the 1980 to 1985 period partly reflected the longer duration of unemployment. The increase in the coverage ratio over the last sub-period mainly reflected extended eligibility for the program, including easier access to other program benefits such as maternity leave and adoption benefits.

Over the 1975-1989 period, average weekly benefits grew less rapidly than output per capita in the economy. This phenomenon was particularly evident in the second half of the 1970s as the benefit rate or the proportion of insurable earnings paid was reduced twice. In 1976, the benefit rate for claimants with dependants was reduced from 75 to 66 2/3 per cent; it was reduced from 66 2/3 to 60 per cent for all claimants in early 1979. Also, UI benefits are a function of average industrial wages (AIW) which have grown less rapidly than output per capita. In part, this reflects an increase in the participation rate (mainly women) which pushed up output per capita but tended to reduce average earnings. Nonetheless, average weekly benefits tended to grow faster than AIW as maximum insurable earnings (MIE) grew faster than AIW. This is a direct result of the lagged nature of the MIE formula (8-year moving average with a two-year lag) and reflects the fact that the strong growth in wages which occurred in the early 1980s is still impacting on today's calculation of the MIE.

iii) Family Allowances

The Family Allowances program provides additional income to families in the form of benefits for children under the age of 18.

Indexed to the CPI in 1973 (indexing was suspended or limited in some years), family allowances underwent a discretionary reduction in 1979 when the child tax credit was introduced. To ensure that the results are not biased by this structural change, the analysis begins in 1980.

It is interesting to note that under the *Family Allowances Act*, a provincial government may ask the federal government to change the amounts payable according to the age and/or number of children in the family. The Act stipulates, however, that no child may receive less than 60 per cent of the federal scale and that over a period of four years, the total amount paid to the child must be the same as if the province were using the federal scale. Two provinces, Québec and Alberta, have availed themselves of this option. Québec also has its own Family Allowances program in addition to the federal program.

The following decomposition illustrates the role of a number of factors in the evolution of the ratio of family allowances spending to GDP.

$$\frac{FAE}{GDP} = \frac{POP_{17-}}{POP} \cdot \frac{FABEN}{POP_{17-}} \cdot \frac{FAE/FAIF/FABEN}{GDP/PGDP/POP} \cdot \frac{FAIF}{PGDP}$$

(1) (2) (3) (4)

FAE = total spending on family allowances
GDP = nominal GDP
POP_{17-} = number of people aged 17 or under
POP = total population
FABEN = number of family allowances beneficiaries
FAIF = the family allowances indexation factor
PGDP = GDP deflator

Table 3.23 shows the contribution of each factor to the proportion of federal family allowances spending to GDP for the 1980 to 1989 period and two sub-periods.

Throughout the 1980s, the evolution of family allowances spending was affected by the decline in the demographic ratio, i.e. the proportion of the population aged 17 and under in total population. This proportion declined by approximately 13 per cent over the 1980 to 1989 period. The coverage did not have any impact as no changes were implemented in this regard. The most significant factor was the decline in the relative enrichment of the program. The indexation factor increased

Table 3.23
Accounting for the Evolution of Family Allowances Benefits
Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:				
					of which:	
		Demographic Ratio (1)	Coverage Ratio (2)	Relative Nominal Enrichment	Relative Real Enrichment (3)	Relative Price Effect (4)
1980 to 1989	0.68	0.87	1.01	0.77	0.81	0.95
1980 to 1985	0.88	0.91	1.01	0.96	0.90	1.07
1985 to 1989	0.78	0.96	1.01	0.81	0.91	0.89

faster than the GDP deflator during the 1980-1985 period but was limited to the growth of the consumer price index minus 3 per cent over the most recent period. As there was no real enrichment (there are no adjustments of benefits to productivity) of the program, nominal payments per beneficiary did not keep pace with per capita output.

3.3.5 Factors Affecting the Growth in Provincial[29] Social Services Spending

The primary objective of provincial social services spending is to supplement the income of single-parent families, unemployed workers not in receipt of UI, senior citizens, mentally and physically disabled, and to support children requiring special protection. Provincial government spending also includes Workers' Compensation, Tax Credits and Rebates, the Vocational Rehabilitation of Disabled Persons, social assistance and services for Indians and many other programs. Some of these programs are partly funded through transfer payments under the Canada Assistance Plan (CAP).

The aim, the structure, and the method of delivery of provincial spending on social services programs vary significantly across provinces. Through the CAP and in conjunction with the initiatives taken by the provinces, it has been possible to develop a distinct social welfare system in each province and territory.

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29. As the data come from Health and Welfare Canada, no distinction is made between provincial and local data.

The following analysis is somewhat limited by the availability of fully comparable data on social services spending across provinces. Although the FMS system provides adequate information on the major components of social services spending, it does not provide sufficiently detailed information to perform an in-depth analysis of the evolution and the structure of the numerous underlying programs. To partly overcome this problem, the following analysis uses data from Health and Welfare Canada[30].

Health and Welfare Canada data allows social services spending to be divided into two broad categories: programs related to the CAP and those which are not. The first category includes general assistance and a number of other social services programs. The general assistance programs cover payments to individuals or families for food, shelter and clothing. The other social services category includes a broad range of programs such as child welfare and day care, homes for special care for adults and children, and counselling. Non-CAP related programs include spending for the vocational rehabilitation of disabled persons, workers' compensation, tax credits and rebates and other provincial welfare programs.

The following analysis will examine the components of CAP and non-CAP related programs individually. It is important to note that within each broad category identified, there are numerous provincial programs having widely different characteristics. Inter-provincial divergences in the growth of the programs aggregated under each broader category may reflect, for example, the timing of introduction of new programs and the restructuring of programs over time. Given these considerations, there will be no attempt -- with the exception of the general assistance programs -- to systematically compare the growth of each category of program across provinces.

3.3.5.1 CAP-related Programs

These programs represented more than half of total provincial spending on social services in 1987-88. Table 3.24 below presents growth rates of CAP-related social services programs over the 1975-76 to 1989-90 period. Over this period, these programs grew at an average annual rate of 10.3 per cent. The strongest growth was recorded in Alberta (13.1 per cent) and the lowest in Prince Edward Island (7.2 per cent). Major components of CAP-related programs will now be examined separately.

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30. See Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

Table 3.24

Provincial CAP-related Social Services Programs 1975-76 to 1989-90[1]

(average annual rates of growth)

	General Assistance	Homes[2] Adults	Homes[2] Children	Child[3] Welfare	Health Payments	Other Services	Total CAP
Newfoundland	6.9	1.2	-15.5	13.0	11.1	16.4	7.5
Prince Edward Island	11.4	-3.5	-	8.4	2.5	12.0	7.2
Nova Scotia	11.5	3.2	8.0	6.2	19.0	9.6	10.2
New Brunswick	8.2	4.9	4.2	7.5	11.0	12.1	8.5
Québec	10.6	-3.1	4.3	1.0	14.7	18.0	9.3
Ontario	12.2	-2.0	-2.4	3.0	30.3	15.1	11.3
Manitoba	10.5	5.0	7.0	6.6	10.8	15.0	10.6
Saskatchewan	11.0	0.1	6.3	9.1	8.8	16.4	9.7
Alberta	14.3	-3.6	19.0	7.2	93.1	14.1	13.1
British Columbia	10.5	-1.5	9.9	-3.3	15.2	13.7	9.9
Northwest Territories	11.5	2.1	3.4	13.5	-	8.6	9.4
Yukon	10.3	-3.6	-	-	-	16.6	12.7
Total	11.2	-1.8	5.6	3.9	17.4	15.3	10.3

1. It must be noted that programs, definitions and reporting systems vary considerably among provinces or within a given province over time.

2. Figures for NWT and Yukon are aggregated under Yukon from 1973-74 to 1978-79. Since April 1, 1977, a major portion of the costs of long-term adult institutional care has been assumed under the Established Programs Financing Act. For the years 1974-75 to 1980-81, data may include certain expenditures made under the Supplementary Nursing Home Care Benefits agreements.

3. Payments under Young Offenders Agreements have been included for years 1980-81 to 1987-88.

Source: Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

i) General Assistance programs

These programs include payments to satisfy the basic needs of persons and families for food, clothing, shelter, fuel, public services, household supplies and personal care as well as special requirements such as security, welfare and rehabilitation. Spending on general assistance programs accounts for some 65 per cent of total provincial spending on programs eligible to CAP payments (Table 3.25).

Table 3.25

Provincial CAP-related Social Services Programs – 1989-90[1]

(shares in percentage)

	General Assistance	Homes[2] Adults	Homes[2] Children	Child[3] Welfare	Health Payments	Other Services	Total CAP
Newfoundland	59.0	6.0	0.2	8.0	8.6	18.2	100.0
Prince Edward Island	57.6	8.9	2.9	3.2	3.8	23.5	100.0
Nova Scotia	69.9	5.8	3.9	3.8	4.4	12.2	100.0
New Brunswick	74.3	2.7	1.2	2.2	3.8	15.8	100.0
Québec	62.2	2.9	9.3	1.5	4.8	19.3	100.0
Ontario	68.8	2.6	0.3	2.7	3.7	22.0	100.0
Manitoba	53.0	2.0	6.5	6.8	3.4	28.2	100.0
Saskatchewan	61.9	7.6	2.0	4.5	3.1	20.9	100.0
Alberta	66.6	1.8	6.2	3.7	5.8	15.8	100.0
British Columbia	62.9	3.6	4.8	0.5	4.6	23.6	100.0
Northwest Territories	60.1	2.8	8.5	8.8	0.0	19.8	100.0
Yukon	26.6	3.4	8.5	8.9	0.0	52.6	100.0
Total	64.9	3.0	4.7	2.5	4.4	20.5	100.0

1. It must be noted that programs, definitions and reporting systems vary considerably among provinces or within a given province over time.

2. Figures for NWT and Yukon are aggregated under Yukon from 1973-74 to 1978-79. Since April 1, 1977, a major portion of the costs of long-term adult institutional care has been assumed under the Established Programs Financing Act. For the years 1974-75 to 1980-81, data may include certain expenditures made under the Supplementary Nursing Home Care Benefits agreements.

3. Payments under Young Offenders Agreements have been included for years 1980-81 to 1987-88.

Source: Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

The growth in provincial general assistance payments is largely a function of economic and demographic factors. The evolution in general assistance spending in relation to GDP can be explained by the following decomposition:

$$\frac{GAE}{GDP} = \frac{GABEN}{POP} \cdot \frac{GAE/PCE/GABEN}{GDP/PGDP/POP} \cdot \frac{PCE}{PGDP}$$

(1) (2) (3)

GAE = general assistance spending
GDP = nominal GDP
GABEN = number of beneficiaries
POP = total population
PCE = personal consumption deflator
PGDP = GDP deflator

The results of this decomposition for the 1975-1989 period are presented in Table 3.26. Over the entire period, the proportion of general assistance spending to GDP increased 18 per cent in Canada. This rise was primarily attributable to the increase in the coverage ratio (number of beneficiaries over total population) during the 1980-1985 period which largely reflected the impact of the 1981-1982 recession. Overall, general assistance benefits per beneficiary rose over the 1975-1989 period in line with increases in nominal GDP per capita reflecting a combination of higher real benefits per recipient relative to real GDP per capita and a modest decline in compensation for inflation.

Three provinces -- Newfoundland, Prince Edward Island and New Brunswick -- experienced a decline in the ratio of social assistance spending to GDP over the 1975-1989 period. In the case of Newfoundland and Prince Edward Island, this decline mainly reflects the drop in the coverage ratio. Indeed, the coverage ratio declined in these provinces during the 1980-1985 period while it increased in all other provinces because of the recession. In the case of Newfoundland, a number of specific factors explain the decline. For example, the introduction of the Employment Opportunities program in 1976 reduced the number of social assistance beneficiaries; the reduction in family size contributed to a reduction in the number of beneficiaries; and a large number of persons who received social assistance became eligible for Canada Pension benefits under the survivors or the disability plan. As benefits of these plans increase with the number of years of contribution, eligibility for the general assistance programs was progressively reduced. In contrast, the drop in the general assistance spending ratio in New Brunswick is explained by a significant decline in nominal spending per beneficiary compared to nominal GDP per capita as both the real enrichment and the price ratios declined.

Alberta, Saskatchewan and Ontario recorded the largest increases in their general assistance spending ratio. For the first two provinces, both the coverage and the nominal enrichment ratios contributed to the increase. In Ontario, the growth in the spending ratio reflected exclusively the increase in the coverage ratio. This latter ratio rose during the 1981-1982 recession and continued to climb during the 1985-1989 period. The large influx of immigrants, the recognition of a broader range of disabled persons and the rise in the number of single parents contributed significantly to this increase. However, the nominal enrichment ratio declined in Ontario for the entire period, particularly after 1985. This reflected essentially a decline in the relative price effect.

The coverage ratio declined significantly in Québec and British Columbia over the 1985-1989 period. British Columbia introduced tighter eligibility criteria for general assistance programs. In the case of Québec,

Table 3.26

Accounting for the Evolution of General Assistance Spending

Ratios of End-Year to Initial-Year Values

	Evolution of the Spending Ratio	Due to the evolution in:			
				of which:	
		Coverage Ratio (1)	Relative Nominal Enrichment	Relative Real Enrichment (2)	Relative Price Effect (3)
Newfoundland					
1975 to 1989	0.68	0.76	0.89	0.84	1.06
1975 to 1980	0.77	0.80	0.96	0.91	1.05
1980 to 1985	0.82	0.92	0.89	0.97	0.92
1985 to 1989	1.07	1.02	1.05	0.96	1.09
Prince Edward Island					
1975 to 1989	0.98	0.88	1.11	0.86	1.29
1975 to 1980	1.26	1.09	1.16	0.93	1.25
1980 to 1985	0.90	0.89	1.02	1.03	0.99
1985 to 1989	0.86	0.91	0.95	0.90	1.05
Nova Scotia					
1975 to 1989	1.12	1.35	0.83	0.87	0.95
1975 to 1980	1.06	1.12	0.95	1.03	0.92
1980 to 1985	0.92	1.12	0.82	0.87	0.94
1985 to 1989	1.15	1.08	1.08	0.97	1.11
New Brunswick					
1975 to 1989	0.74	1.19	0.63	0.87	0.72
1975 to 1980	0.99	1.23	0.81	1.00	0.81
1980 to 1985	0.91	1.00	0.92	0.93	0.99
1985 to 1989	0.82	0.97	0.85	0.94	0.90
Quebec					
1975 to 1989	1.12	1.20	0.94	1.01	0.93
1975 to 1980	1.18	1.20	0.97	0.96	1.01
1980 to 1985	1.38	1.28	1.08	1.06	1.02
1985 to 1989	0.69	0.78	0.88	0.98	0.90
Ontario					
1975 to 1989	1.26	1.57	0.80	0.99	0.81
1975 to 1980	0.90	1.01	0.89	0.98	0.91
1980 to 1985	1.26	1.19	1.06	1.06	1.00
1985 to 1989	1.11	1.31	0.85	0.96	0.88
Manitoba					
1975 to 1989	1.20	1.09	1.10	1.04	1.06
1975 to 1980	0.83	0.81	1.04	0.99	1.05
1980 to 1985	1.45	1.29	1.13	1.05	1.07
1985 to 1989	1.00	1.05	0.95	1.00	0.95
Saskatchewan					
1975 to 1989	1.52	1.12	1.35	1.10	1.23
1975 to 1980	1.11	0.95	1.17	0.89	1.31
1980 to 1985	1.54	1.36	1.13	1.13	1.00
1985 to 1989	0.89	0.86	1.03	1.09	0.94
Alberta					
1975 to 1989	1.83	1.39	1.32	0.81	1.63
1975 to 1980	0.73	0.83	0.88	0.69	1.27
1980 to 1985	1.78	1.48	1.21	0.96	1.26
1985 to 1989	1.41	1.14	1.24	1.22	1.02
British Columbia					
1975 to 1989	1.04	1.06	0.98	0.98	1.00
1975 to 1980	0.91	0.72	1.27	0.95	1.34
1980 to 1985	1.60	1.86	0.86	1.08	0.80
1985 to 1989	0.71	0.79	0.90	0.96	0.94
Canada					
1975 to 1989	1.18	1.26	0.94	1.04	0.90
1975 to 1980	0.98	1.01	0.97	0.99	0.98
1980 to 1985	1.34	1.28	1.05	1.05	1.00
1985 to 1989	0.90	0.98	0.92	1.00	0.92

tighter administrative controls were implemented. British Columbia initiated a program that seeks jobs for recipients. Benefits are discontinued to recipients who refuse job offers.

Other factors may account for inter-provincial differences in the coverage ratio but their impact in each province is difficult to evaluate. The factors most often noted are: the increase in the number of persons who exhausted their UI benefits during economic slowdowns, inter-provincial variations in the number of people aged between 18 and 21 years; and inter-provincial divergences in the definition of employability.

ii) Homes for Special Care for Adults and Children (HSCAC)

Payments under HSCAC include shelter costs of persons in need and of residents in homes for the aged, rest homes, single mother homes, homeless shelters, homes for care, for children and other. Spending on HSCAC programs accounted for 7.7 per cent of total provincial spending on CAP-related programs in 1989-90 (Table 3.25).

Between 1975-76 and 1989-90, the average annual rate of growth of payments on homes for special care for children (HSCC) was 5.6 per cent (Table 3.24). Substantial inter-provincial differences are observed: an increase of 19 per cent in Alberta compared with a decline of 15.5 per cent in Newfoundland.

Looking at the main determinant, the average annual rate of growth in the number of beds available for children was 3 per cent over the same period (Table 3.27). The increase in the number of beds was particularly important in Saskatchewan (12 per cent) and Manitoba (9.7 per cent). Only Québec (-0.6 per cent) and Yukon (-3.7 per cent) recorded a decline in the number of beds between 1975-76 and 1989-90. The poor correlation between the growth in the number of beds and the cost of the programs indicates substantial inter-provincial divergences in the evolution of the cost per bed.

Spending on homes for special care for adults (HSCA) declined at an average annual rate of 1.8 per cent (Table 3.24) between 1975-76 and 1989-90 at the national level. Manitoba (5 per cent), New Brunswick (4.9 per cent), Nova Scotia (3.2 per cent), Northwest territories (2.1 per cent) and Newfoundland (1.2 per cent) recorded an increase over the 1975-1989 period. However, despite the decline in spending for this

Table 3.27

Beds in HSCAC and Children in Child Welfare – 1975-76 to 1989-90
(average annual rates of growth)

	Beds in HSCA[1]	Beds in HSCC[2]	Children in Care[3]
Newfoundland	2.4	2.1	-12.7
Prince Edward Island	0.7	1.0	-1.6
Nova Scotia	2.0	2.2	-5.3
New Brunswick	2.3	5.2	-5.5
Québec	1.5	-0.6	-[4]
Ontario	0.4	5.9	-2.1
Manitoba	1.0	9.7	-2.2
Saskatchewan	0.6	12.0	-1.5
Alberta	0.4	5.5	-7.1
British Columbia	2.3	6.6	-3.4
Northwest Territories	-1.4	6.6	-
Yukon	1.7	-3.7	-8.6
Total	1.1	3.0	-4.1

1. Number of beds in Homes for Special Care for Adults.

2. Number of beds in Homes for Special Care for Children.

3. Number of children in care under Child Welfare.

4. Not available for 1989-90.

Source: Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

program, the number of beds increased at an average annual rate of 1.1 per cent (Table 3.27). Only Northwest Territories showed a decline (-1.4 per cent) in the number of beds.

iii) Child Welfare

This category includes child welfare programs such as adoption services, care in foster homes, group homes and other special homes. As shown in Table 3.24, payments for child welfare increased at an average annual rate of 3.9 per cent between 1975-76 and 1989-90. Spending on child welfare represented 2.5 per cent (Table 3.25) of total provincial spending on CAP-related programs. At the provincial level, the increase in spending has been particularly pronounced in Newfoundland, Saskatchewan and the Northwest Territories. The number of children covered declined 4.1 per cent per year, on average, for the 1975-1989 period. Offsetting declining numbers, the average cost per recipient increased from $1,855 in 1975-76 to $5,400 in 1989-90.

iv) Health Care

This category includes payments for drugs, bandages, and prostheses which are not included in the Establish Programs Financing agreement of 1977. In 1989-90, health care payments accounted for 4.4 per cent of total payments on CAP-related programs (Table 3.25). This category of spending recorded the highest average growth over the 1975-1989 period at 17.4 per cent (Table 3.24). At the provincial level, the highest rates of growth have been registered in Alberta, Ontario, and Nova Scotia. For this latter province, the high rates are largely due to the introduction of Pharmacare in Family Benefits Programs.

v) Other Welfare Services and Work Activity

This category includes many programs such as rehabilitation services, casework, counselling and assessment services, community development, administrative, secretarial, and clerical functions associated with the provision of welfare services and the administration of assistance. Over the 1975-76 to 1989-90 period, these programs grew at an average annual rate of 15.3 per cent at the national level (Table 3.24). The strongest growth was recorded in Québec (18 per cent) and the weakest in Northwest Territories (8.6 per cent).

3.3.5.2 Non-CAP related programs

A number of provincial social services programs do not qualify for cost-sharing given the Canada Assistance Plan criteria. Over the 1975-76 to 1987-88 period, these programs grew at an average annual rate of 15.2 per cent (Table 3.28), with the strongest growth being recorded in Newfoundland (27.8 per cent) and the weakest in Saskatchewan and British Columbia (9.2 per cent). The main components of non-CAP related programs will now be examined individually.

i) Vocational Rehabilitation of Disabled Persons

The programs classified under this component are cost-shared between the federal and provincial governments. They include services such as medical, social and vocational assessment, counselling, provision of protheses, training, maintenance allowances, and the provision of tools, books and other equipments for the physically and mentally disabled persons. From 1975-76 to 1987-88, these programs grew at an average annual rate of 13.1 per cent at the national level. Substantial

Table 3.28

Provincial Non-CAP Related Social Services Programs 1975-76 to 1987-88[1]

(average annual rates of growth)

	Vocational[2] Rehabilitation of Disabled	Workers' Compensation	Tax[3] Credits	Other[4] Welfare	Total
Newfoundland	25.4	15.9	-	44.0	27.8
Prince Edward Island	13.9	16.7	-	26.8	24.5
Nova Scotia	12.1	11.5	-	35.8	17.5
New Brunswick	26.9	12.6	22.7	25.6	20.7
Québec	-	15.7	31.6	22.8	20.0
Ontario	9.1	15.0	4.2	73.6	13.0
Manitoba	10.8	15.3	8.7	41.3	12.6
Saskatchewan		13.7	-	-3.8	9.2
Alberta	15.4	17.2	13.3	28.4	19.2
British Columbia	27.0	10.8	29.3	-31.5	9.2
Northwest Territories	-	-	-	-	-
Yukon	8.4	30.6	-	14.4	30.6
Total	13.1	14.7	10.0	20.7	15.2

1. It is important to note that programs, definitions and reporting systems vary considerably among provinces or within a given province over time; data are not comparable and should be used as estimates only. Figures for NWT and Yukon are aggregated under Yukon from 1973-74 to 1978-79.

2. Rehabilitation services in Québec are cost-shared under CAP.

3. None in Newfoundland and data not covering the 1975-1987 period in some other provinces.

4. These data represent residual spending by the provinces on welfare programs not accounted for elsewhere in this table. Health and Welfare calculates spending in this category by subtracting expenditures reported in CAP and in Vocational Rehabilitation of Disabled Persons from Total Social Welfare spending reported by Statistics Canada.

Source: Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

inter-provincial differences are observed in the growth of these programs. The strongest growth was observed in British Columbia (27.0 per cent).

ii) Workers' Compensation

Workers' compensation programs protect employees and their dependants against wage loss due to occupational injury or disease and provide assistance with medical and other expenses. All employees, both full and part-time, of insured industries are eligible for benefits when they have been injured on the job or have become victims of an occupational disease. Benefits are based on earnings, up to a statutory maximum. In some jurisdictions, benefits are reduced by the amount received under the Canada Pension Plan disability provision.

These benefits are available for temporary and permanent disabilities, and cover surviving dependants. Temporary and permanent disability benefits are a function of income impairment and the degree of disability or a combination of both. In the case of surviving benefits, dependants are entitled to cash compensation as well as payments for funeral and related expenses. Workers' compensation benefits are indexed although there are considerable variations among provinces.

Spending on workers' compensation grew at an average annual rate of 14.7 per cent over the 1975-1987 period and represented 41 per cent of non-CAP program spending (Table 3.29). The growth rate of this program exceeded 10 per cent in every province reaching 30.6 per cent in the territories. This strong increase mainly reflects the generosity of the protection provisions and to a lesser extent the increase in time-loss injuries.

iii) Tax Credits and Rebates

Tax credits and rebates have been used to offset taxation on some classes of taxpayers, especially the elderly and the disadvantaged. In certain jurisdictions, these credits and rebates are considered as income supplements to those with no tax liability. The sales tax credit, the child tax credit, the personal income tax credit, rental assistance tax credits for seniors, the farm tax rebate/reduction and a few others are included in this component. These credits grew very rapidly in Québec, British Columbia and New Brunswick.

iv) Other provincial welfare programs.

This category represents residual spending by provinces on welfare programs not accounted for elsewhere in this section. Health and Welfare Canada calculates spending in this category by subtracting expenditures reported in CAP and in Vocational Rehabilitation of Disabled Persons from Total Social Welfare spending reported by Statistics Canada. Given its residual nature, the evolution of this spending is difficult to interpret and no further analysis is performed.

Table 3.29

Provincial Non-CAP Related Social Services Programs 1987-88[1]

(shares in percentage)

	Vocational[2] Rehabilitation of Disabled	Workers' Compensation	Tax Credits	Other[3] Welfare	Total
Newfoundland	4.2	32.7	-	62.6	100.0
Prince Edward Island	3.2	22.2	22.2	52.5	100.0
Nova Scotia	6.0	57.2	3.4	33.4	100.0
New Brunswick	3.4	18.5	35.2	42.9	100.0
Québec	-	34.9	7.6	57.6	100.0
Ontario	2.2	49.2	23.4	25.2	100.0
Manitoba	3.2	23.4	26.6	16.8	100.0
Saskatchewan	4.8	38.1	41.4	15.6	100.0
Alberta	4.1	39.6	15.3	41.0	100.0
British Columbia	6.2	54.6	53.5	-13.3	100.0
Northwest Territories	-	-	-	-	-
Yukon	2.7	33.3	5.4	58.5	100.0
Total	2.2	41.1	21.0	35.8	100.0

1. It is important to note that programs, definitions and reporting systems vary considerably among provinces or within a given province over time; data are not comparable and should be used as estimates only. Figures for NWT and Yukon are aggregated under Yukon from 1973-74 to 1978-79.

2. Rehabilitation services in Québec are cost-shared under CAP.

3. These data represent residual spending by the provinces on welfare programs not accounted for elsewhere in this table. Health and Welfare calculates spending in this category by subtracting expenditures reported in CAP and in Vocational Rehabilitation of Disabled Persons from Total Social Welfare spending reported by Statistics Canada.

Source: Health and Welfare Canada, Social Security Statistics: Canada and the Provinces.

3.3.6 Conclusions

The main conclusions of this sub-section are:

- The share of social services spending in total program spending increased at each level of government over the 1975-1989 period. As a proportion of GDP, social services spending increased at the provincial and local government levels and declined marginally at the federal level.

- The highest growth was recorded at the provincial level.

- The recession of 1981-1982, the persistence of high unemployment rates in the following years, and an aging population have significantly contributed to the increase in social services spending.

Federal Level

- Among the main federal components, Old Age Security and Social Welfare grew the fastest.

- The spending-to-GDP ratio grew for every component of Old Age Security: growth ranged from 5 per cent for old age pensions to 24 per cent for the spouses' allowance.

  - An aging population has been the main contributing factor to the growth of old age pensions and the guaranteed income supplement.

  - A discretionary increase in the coverage and an aging population have been the main factors behind the strong growth in the spouses' allowance.

- The proportion of UI spending to GDP declined slightly over the 1975-1989 period. Strong upward pressures were recorded in the 1980-1985 period reflecting the impact of the 1981-1982 recession. The proportion declined, on average, over the 1985-1989 period as a result of the significant decline in the unemployment rate. This was partly offset by a greater eligibility under the program for maternity and adoption leave.

- The proportion of family allowances to GDP declined significantly because of demographic factors and the limited indexation of benefits after 1985.

- Tax credits and rebates grew very rapidly, but represented a small proportion of total federal spending on social services.

Provincial Level

CAP-Related Programs

- These programs represented more than half of total provincial social services spending and grew more rapidly than GDP over the 1975-1989 period.

- The proportion of general assistance spending to GDP increased 18 per cent over the 1975-1989 period at the national level. The main contributing factor was the rise in the number of beneficiaries

in the 1980-1985 period. However, the coverage ratio (the number of beneficiaries to total population) did not increase in Newfoundland and Prince Edward Island for the 1975-1989 period. In addition, Québec introduced tighter administrative controls and British Columbia applied stricter eligibility criteria in the 1985-1989 period.

- For most provinces and territories, there were limited pressures from spending on homes for special care for adults and children and from child care.

- In general, provinces experienced strong growth for health care and other welfare services which accounted for 25 per cent of spending on CAP-related programs.

Non-CAP Related Programs

- Spending on these programs grew much faster than on CAP-related programs over the 1975-1989 period.

- The fastest growing individual component has been Workers' Compensation, which represented 41 per cent of spending on non-CAP related programs.

3.4 Annex: Properties of the Decomposition Analysis

The purpose of this annex is to briefly describe the properties of the decomposition analysis performed for a number of sub-components of health, education, and social service spending. For the purpose of exposition, we will document the specific case of Old Age Security pensions (OAS) spending.

As indicated in sub-Section 3.3 of the study, OAS spending as a proportion of GDP can be decomposed as follows:

$$\frac{OAS}{GDP} = \underbrace{\frac{POP\ 65+}{POP}}_{(1)} \cdot \underbrace{\frac{PBEN}{POP65+}}_{(2)} \cdot \underbrace{\frac{ROAS/PBEN}{RGDP/POP}}_{(3)} \cdot \underbrace{\frac{OASIF}{PGDP}}_{(4)} \qquad (1)$$

Where:

OAS	=	total spending on old age pensions;
GDP	=	gross domestic product;
POP 65+	=	number of people aged 65 and over;
POP	=	total population;
PBEN	=	number of pension beneficiaries;
ROAS	=	real old age pensions benefits;
RGDP	=	real GDP;
OASIF	=	the old age pensions indexation factor; and,
PGDP	=	GDP deflator

First, it is easy to show that equation (1) is an identity. By cancelling terms whenever possible, we get:

$$\frac{OAS}{GDP} = \frac{ROAS}{RGDP} \cdot \frac{OASIF}{PGDP} \qquad (2)$$

The right-hand side of equation (2) corresponds to nominal OAS spending as a proportion of nominal GDP.

Table 3.30 below presents the results of the decomposition over the 1975 to 1989 period. It is interesting and useful to assess the main properties of these results.

Table 3.30

Accounting for the Evolution of Old Age Pensions

Ratios of End-Year to Initial-Year Values

	Evolution of the proportion of OAS spending to GDP	Due to the evolution in:			
		Demographic Ratio (1)	Coverage Ratio (2)	Relative Real Enrichment (3)	Relative Price Effect (4)
1975 to 1989	1.05	1.33	1.00	0.74	1.07
1975 to 1980	0.99	1.11	0.99	0.89	1.00
1980 to 1985	1.08	1.09	1.00	0.93	1.06
1985 to 1989	0.98	1.09	1.00	0.89	1.01

All the numbers presented in the table above correspond to the percentage change of the variable considered over the period. For example, the figure 1.05 in the column "evolution of the proportion of OAS spending to GDP" indicates that the proportion of OAS spending to GDP has increased 5 per cent between 1975 and 1989. Similarly, the figure 1.33 in the column "demographic ratio" indicates that the proportion of people aged 65 and over in total population increased 33 per cent between 1975 and 1989.

The contributions of the explanatory factors (right-hand side of the equation) to the change in the spending ratio (left-hand side of the equation) are multiplicative over a given period. This result is easy to demonstrate. As indicated above, each variable in the table corresponds to the percentage increase of the variable or factor considered. For example, in the case of the first line of the table, we have:

$$1.05 = (OAS_{89}/GDP_{89}) \;/\; (OAS_{75}/GDP_{75}) \qquad (3)$$

By substituting for the numerator and the denominator of equation 3 we get:

$$1.05 = \frac{(POP65+_{89}/POP_{89}) * (PBEN_{89}/POP65+_{89}) * (OAS_{89}/PBEN_{89})/(GDP_{89}/POP_{89})}{(POP65+_{75}/POP_{75}) * (PBEN_{75}/POP65+_{75}) * (OAS_{75}/PBEN_{75})/(GDP_{75}/POP_{75})} \qquad (4)$$

By regrouping the terms of equation (4), we get:

$$1.05 = \frac{(POP65+_{89}/POP_{89})}{(POP65+_{75}/POP_{75})} \cdot \frac{(PBEN_{89}/POP65+_{89})}{(PBEN_{75}/POP65+_{75})} \cdot \frac{(OAS_{89}/PBEN_{89})/(GDP_{89}/POP_{89})}{(OAS_{75}/PBEN_{75})/(GDP_{75}/POP_{75})} \quad (5)$$

Each element on the right hand side of equation (5) corresponds to the percentage change of the individual factors considered in the decomposition and reported in the Table. It is straightforward to verify that the product of the percentage increase in each of the underlying factor corresponds to the percentage increase in the OAS spending as a proportion of GDP. From the Table, we have: 1.05 = 1.33 * 1.00 * .74 * 1.07.

An interesting application of this result is that it is possible to obtain directly the joint contribution of two or more underlying factors. For example, the combined contribution of the demographic forces and of the coverage to the evolution of the OAS spending as a proportion of GDP over the 1975 to 1989 period is equal to 1.33 (1.33 for demographic times 1.00 for coverage).

The contribution of an explanatory variable over a given period is equal to the product of the contribution over selected sub-periods. Once again this result can be easily demonstrated. For example, assuming that this result is correct we can write:

$$(OAS_{89}/GDP_{89})/(OAS_{75}/GDP_{75}) = (OAS_{89}/GDP_{89})/(OAS_{85}/GDP_{85}) * (OAS_{85}/GDP_{85})/(OAS_{80}/GDP_{80}) * (OAS_{80}/GDP_{80})/(OAS_{75}/GDP_{75}) \quad (6)$$

It is straightforward to demonstrate the equality by simply cancelling terms on the right-hand side of equation (6). Again, an interesting property of this result is that the contribution over a number of sub-periods can be readily assessed. For example, the contribution of demographic forces to the evolution of the OAS spending as a proportion of GDP over the 1975 to 1985 period is equal to 1.21 (1.11 for 1975 to 1980 times 1.09 for 1980 to 1985).

4.0 Pressures on Government Spending in the 1990s and Beyond

This section reviews future pressures on government spending, particularly over the remainder of this decade. The study focuses essentially on pressures related to program spending. As such, the analysis is partial. Many cost drivers -- inflation, growth, demographics etc. -- will have an impact not only on program spending but also on revenues and debt charges and, consequently, on government budget balances.

Conceptually, future cost drivers can be grouped into two categories: general and specific. General cost drivers are those that have an impact on many, if not all, spending functions. For example, macroeconomic developments (growth, inflation, wages, etc.) will have an impact on most government spending functions, although this impact may differ significantly among components. In contrast, specific cost drivers will impact on one or a limited number of spending functions. For example, rapid increases in the cost of new drugs would only impact on health spending. The demarcation between general and specific cost drivers is often arbitrary but helps structure the discussion on their impact on government spending. Finally, it is important to note that the analysis not only seeks to identify cost drivers having an upward impact on government spending but also those having a downward impact. It is necessary to recognize the latter in order to develop a balanced assessment of overall pressures on government spending.

4.1 General Pressures on Government Spending

Within this category, the key pressures on government spending arising from anticipated macroeconomic and socio-political developments are considered.

Put together, these pressures add up to a socio-economic paradigm for the 1990s. Some will provide motivation for addressing spending whereas others will be more direct. Throughout the analysis, a distinction is made between international and domestic pressures.

4.1.1 International Pressures

As a small open economy, Canada is strongly affected by developments on the international scene. A number of pressures, including some already evident in the 1980s, are expected to have either a direct or an indirect impact on spending in the future.

The main motivational factor will be:

- **Pressure to be competitive.** On average, world trade has grown much faster than world output since the 1970s. Countries are becoming more specialized and production systems more interdependent. Countries that will benefit from a significant increase in their standard of living in the 1990s are those that will create and maintain a competitive economic environment. This will require the involvement of both the private and the public sectors. Addressing the public debt problem and ensuring that taxation is not an obstacle to productive investment and work effort are two ways by which governments can promote competitiveness. Ultimately, this means that spending pressures must be restrained.

The more direct influences should come from interest rates and economic growth:

- **Pressures on nominal interest rates have eased.** Durable low interest rates are necessary for sustainable growth and high rates of capital formation in most industrialized countries. In a small open economy like Canada, interest rates are largely determined by developments in world financial markets[31], however, a low domestic inflation environment can be of direct benefit in lowering Canadian interest rates relative to international rates.

  Most industrial countries have recently shown a strong resolve to fight inflation pressures. The pursuit of this policy is expected to have a downward impact on inflation expectations and to create an environment conducive to permanently lower nominal interest rates.

  However, given the strong demand for funds in Eastern Europe and the Former Soviet Union and the large government imbalances in some industrialized countries, including the U.S.A., a shortage of savings could limit the scope for lower real interest rates.

  Overall, international financial developments should provide the appropriate global climate for further easing of nominal interest rates in Canada. Nevertheless, despite these expected positive developments, **real interest rates are generally not expected to decline to the levels observed in the 1960s or 1970s.**

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31. This is particularly true of long-term interest rates.

- **Economic growth in industrial countries should show some strength in the 1990s.** Over this decade, the average growth of industrial economies should be close to that of trend or potential output. A number of international developments are expected to bolster potential output in industrial countries:

  i) the replacement of obsolete capital at a somewhat higher rate than in the past because of the relatively low levels of investment during much of the 1970s and 1980s;

  ii) the likelihood that prices of capital goods, particularly in the high technology sector, will continue to decline relative to output prices, which will tend to lower the cost of capital and encourage capital widening;

  iii) the implementation of structural reforms such as the prospective unification of the European market should provide an impetus to investment through enhanced competition and increased scope for economies of scale.

It is also important to note that for several of the major countries, growth will be bolstered over the next several years by the bounceback from the recession. The achievement of strong growth in the industrialized countries is expected to provide the appropriate international environment for sustainable growth in output and employment in Canada.

4.1.2 Domestic Pressures

Various domestic pressures will also impact significantly on government spending.

The main motivational factor for addressing spending pressures comes from taxation:

- **People are increasingly concerned about the overall level of taxation and of the links between spending and taxation.** Despite a significant slowdown in trend economic growth, governments have been under constant pressure in the last two decades to provide more services. This was due to a certain degree of fiscal illusion with respect to the consequences of growing spending. Experience has now shown that large and growing fiscal imbalances have tangible impact on debt burdens and taxation.

The main direct influences will be:

- **Domestic inflation pressures will decline with a concomitant fall in pressures on nominal interest rates.** As indicated above, the international context should be favourable to lower inflation and nominal interest rates. Canadian policy developments are also expected to contribute to these objectives. The February 1991 federal budget introduced deficit reduction measures and inflation targets that call for price stability in the second half of the 1990s. Achieving these targets should provide the appropriate context for a permanent reduction in nominal interest rates. However, Canadian real interest rates are expected to stay relatively high in the 1990s, given international financial pressures.

- **Real growth should show some strength over the rest of the 1990s.** As indicated earlier, industrialized countries are expected to record relatively strong growth in the 1990s. Some structural factors that are expected to contribute to strong growth in potential output in these countries should also be at work in Canada. Moreover, a number of specific domestic factors should bolster the growth in potential output in the 1990s. For example, the structural measures implemented in the second half of the 1980s are expected to have a positive impact on capital formation and trend productivity. The impact of these developments will be counterbalanced to some extent, however, by the influence of lower population growth and of an aging population on the growth of employment and by relatively high real interest rates.

- **Immigration will be high in the remainder of the decade.** There is some debate on the economic consequences of immigration. In the medium term, it is generally believed to have a positive impact on economic activity by lowering the dependency ratio, increasing economies of scale, and by closing labour market gaps in some sectors. On the other hand, immigration may put additional pressures on the public sector in the near term (cost for language training, social welfare, etc.). A number of jurisdictions in Canada -- particularly Ontario, Québec, and British Columbia -- are currently experiencing fiscal pressures as a result of higher immigration. The recent White Paper on immigration announced that immigration quotas would increase from 200,000 in 1990 to 220,000 in 1991 and to 250,000 annually from 1992 to 1995.

- **Pressures to become more competitive internationally will lead to demands for greater flexibility in labour markets -- particularly to increase the mobility and the adaptability of labour.** Increased spending on training, retaining and other labour market adjustment programs will be required to bring about these changes. Although this should not be the sole responsibility of governments, they are nevertheless likely to be pressed to make a major contribution.

- **Public infrastructure is aging and there is a pressing need to invest to refurbish Canadian public infrastructure.** As shown in sub-Section 2.2, reductions in program spending in recent years have been focused heavily on capital formation. This has led to an aging and a decline in the net stock of public capital in most jurisdictions. There is a pressing need to modernize and rebuild public infrastructure in Canada. The link between efficient public infrastructure, productivity growth, and competitiveness is increasingly evident.

- **Demographic developments should apply upward pressures to government social programs.** The main pressures should be seen in the health sector as an aging population will require more numerous and expensive health care services. The aging of the population will also impact on government pension fund liabilities.

- **Following the 1990-1991 recession, unemployment rates should remain high and pressure social services spending.** The experience of previous recessions shows that the number of welfare and unemployment insurance beneficiaries remains high in the early stages of the recovery phase of the cycle. This will increase social services spending.

4.1.3 Implications of General Pressures on Government Spending

The pressures reported above will impact on government spending in the remainder of this decade. It is useful to develop a qualitative sense of their overall impact.

Table 4.1 below summarizes the anticipated impact of the individual pressures on both the federal and the provincial-local governments. Although it is difficult to attribute a relative importance to all these factors, it appears that, overall, economic and socio-political pressures are likely to provide an environment conducive to the attainment

Table 4.1
Impact of Economic Pressures on Government Spending

Pressures	Federal	Provincial-Local
Motivational		
Competitiveness	The need to become more internationally competitive will provide a strong incentive to address fiscal imbalances.	Same as for the federal government.
Concern about Tax Burdens	Increased pressure to lower tax burdens and therefore to contain the growth of spending.	Same as federal.
Direct		
Lower Inflation and Wage Pressures	Lower inflation will reduce the cost of all indexed programs, especially social security. Lower wage growth will reduce pressure on most other programs as the growth of labour costs and prices of inputs falls.	Same as federal, although provincial-local administrations administer few indexed programs. The impact of lower wages will be particularly noticeable given the importance of wage bills for these administrations.
Sustained Real Growth	Should have a downward impact on costs, particularly on programs supporting individuals and firms in financial difficulties -- unemployment insurance, subsidies, housing, etc.	Same as federal; impact should be particularly strong on welfare programs.
Lower Interest Rates	Lower nominal interest rates will reduce the cost of servicing debt. Could have a downward impact on the cost of programs aimed at supporting businesses in financial difficulties or in need of financial support.	Same as federal.

Table 4.1 (Continued)

Pressures	Federal	Provincial-Local
Higher Immigration	Will directly impact on the costs of immigration programs -- administration, integration and training costs.	Direct impact on the expenditures of the Department of immigration in Québec.
	Long-term costs on social services -- unemployment insurance -- are uncertain.	Some pressures on vocational education spending in order to provide immigrants with the skills required to enter the Canadian labour market.
		Additional short-term costs. Long-term impact on social services and social assistance programs is uncertain.
Need for Greater Flexibility in Labour Markets, Arising from Competitiveness Pressures	Demands for additional funding for training and retraining.	Greater demands for training, retraining, longer participation in education, more adult education will put pressure on spending.
Aging Public Infrastructure	Pressures to invest in public infrastructure or to contribute to the financing of capital projects in other jurisdictions.	Same as federal. Stronger pressures at the provincial-local level as a result of the greater involvement of these administrations in the construction and maintenance of public infrastructure.
Demographics	General pressures on Old Age Security spending.	Added pressures on health spending. Reduced pressures on education spending.
Persistence of High Unemployment Rates in the Aftermath of the Recession	Upward pressures on Unemployment Insurance benefits.	Higher welfare caseloads.

of lower government spending growth at both the federal and the provincial-local levels. The main motivational factors for fiscal restraint are the increasingly recognized need to compete on a global scale and the growing awareness of taxpayers with the current tax burden. Also, nominal and real (short-term) interest rates are expected to decline somewhat compared to the 1980s levels while economic growth should average the levels observed in the 1980s. Nevertheless, these positive pressures could be offset to some extent by factors such as the lingering effects of the recession (particularly in terms of unemployment), deeply entrenched inflation expectations, adverse developments in commodity markets, and the pressing need to invest in public infrastructure and human capital.

4.2 Specific Pressures on Government Spending

This section examines a number of specific factors that are expected to impact on individual components of government spending, particularly health, education, and social services.

4.2.1 Health

Following the framework established in sub-Section 3.1, pressures on the health system can be classified according to their impact on the rate of utilization of health services or on the cost per patient-day. Furthermore, since pressures on different segments of the health care sector differ markedly, the hospital and medical care sub-sectors are examined separately.

i) Hospital care

Utilization of Hospital Services

The aging of the Canadian population is expected to increase the demand for hospital services. The number of people aged 65 years old and over is expected to grow significantly and these people are the most intensive users of the hospital system -- particularly those aged 75 and over[32]. The higher demand for hospital services as a result of aging will be

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32. The consumption of health services by those aged 65 and over is estimated to be, on average, four times larger than that of the average population.

somewhat offset by reduced demand arising from a diminution of the share of the population aged 0-4 years old. This cohort has the next highest demand for hospital services after the 65 years and over cohort. Overall, the dependency ratio -- the share of total population aged 65 and over and 0 to 4 years old -- is expected to increase over the 1990s.

Table 4.2 provides information on the projected structure of the population in the 1990s. For Canada, the proportion of people aged 65 and over is expected to increase from 11.5 per cent in 1990 to 12.9 per cent in 2000.

Over the same period, the proportion of the population aged 0 to 4 years old should decline from 7.1 to 6.0 per cent. The proportion of the population represented by these two cohorts should increase 0.3 percentage points over this period. At the provincial/territorial level, the largest increases in the proportion aged 65 and over are in the Yukon (3.1 percentage points) and Québec (2.2 percentage points). The smallest increase is recorded in Saskatchewan (0.4 percentage points). With respect to the proportion aged 0 to 4 years old, the largest decline is projected in the Northwest Territories (1.5 percentage points) while the smallest is in Newfoundland (0.5 percentage points). The proportion represented by the aggregation of the 0 to 4 and 65 and over cohorts is expected to decline in Manitoba and Saskatchewan. Pressures on hospital costs in these provinces should be lower than elsewhere.

Another factor that will put upward pressures on the utilization of hospital services is the development of new technologies -- CAT scanners, computerized systems, etc. -- and treatments. These will provide a greater range of hospital services, leading to an increase in demand.

The overall effect on the average length of stay is uncertain. On the one hand, some new treatments will imply a longer length of stay. On the other hand, some new and efficient treatments will reduce the period of stay in hospital. New technologies are generally expected to reduce the length of stay for traditional treatments.

Supply factors could, however, limit the effective pressure on the utilization of hospital services resulting from the factors mentioned above. The number of hospital beds per capita is not expected to increase significantly in the coming years. Hence, although demand is expanding, supply constraints may prevent an increase in the effective number of patient days. This could prompt a gradual movement away from an institution-based system toward a community-based (home care, etc.) health care system. The demand for community-based health services is expected to increase significantly over the remainder of this decade.

Table 4.2
Projected Structure of Population
(Per cent of total population)

	1990		2000		Average Annual Growth in Total Population	
	0-4	65+	0-4	65+	1980-1990	1990-2000
Newfoundland	6.8	9.4	6.3	11.5	0.1	0.1
Prince Edward Island	7.6	12.7	6.3	14.0	0.6	0.4
Nova Scotia	6.8	12.4	5.8	13.5	0.6	0.5
New Brunswick	6.7	11.9	5.7	13.5	0.4	0.2
Québec	6.5	10.9	5.3	13.1	0.6	0.7
Ontario	7.1	11.6	6.0	12.9	1.3	1.5
Manitoba	7.7	13.3	6.6	13.9	0.6	0.7
Saskatchewan	8.3	13.7	6.7	14.1	0.4	0.5
Alberta	8.5	8.9	7.0	10.7	1.4	1.7
British Columbia	6.9	13.0	5.9	14.1	1.6	1.6
Yukon	9.2	3.8	7.2	6.9	1.6	2.1
Northwest Territories	13.0	2.8	10.9	4.9	1.9	1.3
Canada	7.1	11.5	6.0	12.9	1.0	1.2

Source: Statistics Canada, special compilation.

Finally, the percentage occupancy of hospitals should continue to increase, owing to demand pressures and increased efficiency, reflecting budgetary constraints and a more efficient use of hospital beds by physicians.

Cost per patient-day

As indicated earlier in the review of the historical cost drivers in the health sector, labour represents some 75 per cent of hospital spending. Hospital employees have relatively strong negotiating power. Consequently, remuneration could continue to exert upward pressures on hospital costs. Pay equity and the necessity to compete with wages and labour conditions offered in other countries in order to retain qualified hospital personnel -- especially nurses -- could add to these pressures.

Strong cost pressures from new and expensive technologies and treatments will persist. This could be aggravated by competition between institutions for their introduction. In addition to being very expensive, new technologies often have an induced effect on wage costs as they require specialized labour. Similarly, strong pressures could be expected to come from the high cost and the increased utilization (per patient-day) of new and expensive drugs.

Increasing health and safety standards for hospital facilities place greater pressures on costs. Although almost all are the result of provincial legislation, changing environmental, fire safety, and waste disposal standards are very costly for institutions to implement.

ii) Medical Care

Utilization of Medicare Services

Most of the factors that will result in upward pressures on the utilization of hospital services in the coming years should also affect medicare costs in a similar way, especially the aging population and the introduction of new technologies and treatments. In addition, other specific factors should also have an impact on the utilization of medical services.

Most importantly, the population per physician is likely to continue to decline. As already noted in sub-Section 3.1, the current fee-for-service method of payment could continue to provide an incentive for physicians to increase the number of services performed.

Cost per medical service

Pressures on the cost of medical services will continue to be strong in the remainder of the decade. This stems from a number of factors:

- **U.S. opportunities will continue to apply upward pressures on physician's remuneration**: remuneration for physicians must compare with that offered in the United States to avoid an exodus of practitioners, particularly specialists. Nevertheless, because of fiscal constraints, some provinces have already implemented caps on billing by physicians; others may follow in the future.

- **The cost of new technologies and treatments will continue to grow rapidly; technological evolution will continue to increase the complexity of services and the reliance on specialists**: This should have a direct upward impact on the cost of medical services as well as an indirect impact on labour costs. However, technology should reduce, on average, the cost of traditional services as efficiency increases.

- **The cost of drugs should continue to increase rapidly:** Although the generosity of the Pharmacare Program has been reduced in many provinces in recent years, the rapid increase in the price of drugs should continue to pressure medicare programs. The rapid increase in prices of new drugs is largely attributed to the relatively high costs of research, development and testing in this area. A higher level of protection was given to the manufacturers of new drugs following the implementation of Bill C-22 in 1987. This law gives manufacturers of new drugs a monopoly of 10 years following National Health and Welfare approval. The outcome of GATT negotiations may give rise to a further increase in patent protection for pharmaceuticals. It is generally perceived that, although it may increase the volume of pharmaceutical research undertaken in Canada, a higher level of protection could result in higher drug prices.

- **The need for physicians to protect themselves against civil claims**: The number of civil claims against physicians has increased in recent years and this trend is expected to continue. The amount of settlements in such cases has also increased significantly. Liability insurance is expensive and represents an additional pressure on the system.

4.2.2 Education

Following the framework used in sub-Section 3.2, future pressures on education spending are decomposed between those affecting participation in the education system and those affecting costs per student. The elementary-secondary and postsecondary sub-sectors are examined separately.

Elementary-secondary level

Demography and Participation

Participation in elementary-secondary education is a function of the age structure and the enrolment rate. Demographic developments should apply downward pressures on elementary-secondary education spending. The proportion of the population aged between 5 and 17 years old is expected to decline over the next 10 years (Table 4.3). For Canada, this proportion is projected to decline 0.6 percentage points from 17.9 per cent in 1990 to 17.3 per cent in 2000. At the provincial/territorial

Table 4.3

Projected School-Age Population

(per cent of total population)

	Elementary-Secondary 5 to 17 years old			Postsecondary 18 to 24 years old		
	1990	1995	2000	1990	1995	2000
Newfoundland	22.1	19.4	18.1	12.9	11.3	10.0
Prince Edward Island	19.8	19.6	19.1	10.9	9.5	9.0
Nova Scotia	18.2	17.3	16.7	11.1	10.1	9.2
New Brunswick	19.3	17.8	16.8	11.3	10.4	9.4
Québec	17.6	17.1	16.1	10.0	9.6	9.5
Ontario	17.3	17.5	17.4	10.5	9.5	9.1
Manitoba	18.7	18.4	18.1	10.6	10.0	9.5
Saskatchewan	20.3	20.3	19.6	10.0	9.7	9.7
Alberta	19.4	19.2	18.7	10.9	10.3	9.9
British Columbia	17.2	17.3	17.0	9.8	9.0	8.9
Yukon	19.9	19.1	18.1	10.7	10.8	10.0
Northwest Territories	24.9	24.9	24.7	13.6	12.1	11.6
Canada	17.9	17.7	17.3	10.4	9.5	9.3

Source: Statistics Canada, special compilation.

level, the largest decline will be in Newfoundland (4 percentage points). However, a 0.1-percentage-point increase is projected in Ontario -- the only such province.

In contrast, enrolment is expected to increase for a number of reasons:

- The increase in the pre-school enrolment observed in the 1980s is expected to continue in the 1990s;
- The number of young adults or adults wanting to complete their secondary education should continue to increase; and,
- A decline in dropout rates is expected.

Cost per student

A number of factors will affect the cost per student in elementary-secondary education:

- An increase in the maintenance costs of older buildings. Many elementary-secondary schools were built in the 1950s and 1960s and their associated maintenance costs are growing.

- The need to renew books, libraries, and to improve technical facilities.

- Although negotiated wage settlements are not likely to increase much faster than inflation, salaries could also be driven by teachers' experience.

- New teachers with higher skills will command higher pay and this will partially offset the savings from the retirement of teachers with many years of experience.

Postsecondary level

Demography and Participation

Demographic developments are expected to apply downward pressures on participation in postsecondary education. The share of the 18-to-24-year-old cohort is expected to decline over the next 10 years (Table 4.3). For Canada, this proportion is expected to decline from 10.4 to 9.3 per cent between 1990 and 2000. At the provincial/territorial level, the largest decline is projected in Newfoundland, (2.9 percentage points) and the smallest in Saskatchewan (0.3 percentage points).

In contrast, a number of factors are expected to result in an increase in the enrolment rate:

- The demand for people with higher education is expected to increase:
  - Strong competition for jobs from domestic and foreign sources.
  - Technology-driven creation of new high-skilled jobs and redefinition of existing jobs.
  - Greater need for retraining.
- The female participation rate should continue to increase.
- The number of part-time students should continue to grow.
- The length of stay in postsecondary institutions is expected to increase due to higher educational requirements from labour market developments.

- Enrolment rates increase during periods of high unemployment and the effect lasts for many years. The recession of the early 1990s could have an impact throughout the first half of the decade.

Cost Per Student

A number of factors could apply upward pressures on the cost per student in postsecondary institutions in the 1990s:

- The requirement for more sophisticated equipment -- laboratories, etc. -- as technologies continue to advance.
- The obsolescence of existing equipment.
- As existing buildings get older, maintenance costs will increase.

4.2.3 Social Services

Cost pressures in the social services area will impact on both the federal and the provincial-local levels of government. Given the significant divergences in the structure of social services programs, future cost pressures are reviewed for each level of government separately.

Federal Programs

Old Age Security (OAS)

The main pressure in this area is the aging of the Canadian population. Between 1990 and year 2000, the proportion of the population aged 65 and over should increase from 11.5 to 12.9 per cent. However, under current arrangements, the statutory indexation of OAS benefits may not apply strong pressures on these payments given the low inflation rates expected in the 1990s. Indeed, as a proportion of GDP, OAS benefits are likely to decline over the next decade as economic growth should exceed the growth in OAS benefits[33]. In the longer term, however, population aging could be the dominant factor, especially after the year 2010, when the wave of baby-boomers will reach retirement age.

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33. This will be discussed in greater detail in a subsequent sub-section.

A number of specific factors could impact on Old Age Security programs:

- There are currently two Charter of Rights challenges against the Spouses' Allowance Program on the basis that this program discriminates against singles and divorcees. Assuming that the structure of this program is maintained, a ruling favourable to the claimants could exert upward pressures on spending.

- The increase in the proportion of people having other forms of retirement income -- private pension plans, deferred saving plans, CPP/QPP, etc. -- in addition to the Old Age Pension should exert additional downward pressures on Guaranteed Income Supplement spending.

- Under current arrangements, the high income tax-back of old age pensions should limit the spending growth on this component, particularly as the threshold is not completely indexed (only CPI inflation minus 3 per cent). In practice, this means that there is no indexation if the inflation rate remains below 3 per cent.

Unemployment Insurance

Pressures on the Unemployment Insurance program will be closely related to demographic and labour market developments. As discussed in sub-Section 3.3, unemployment insurance benefits as a proportion of GDP can be expressed as a decomposition of the share of working-age population to total population, the participation rate, the unemployment rate, and the generosity of the program. Pressures flowing from each of these components are examined individually.

- Between 1990 and 2000, the share of the population aged 15 to 65 in total population is expected to remain constant at roughly 70 per cent. Hence, demographics per se should not impact noticeably on the cost of this program.

- The aggregate participation rate is expected to continue to increase from its current level of 67 per cent to close to 69 per cent by the year 2000. This primarily reflects the increased female participation. Higher labour force participation should apply upward pressures on unemployment insurance benefits, all else equal.

- Following the recession, the unemployment rate is expected to decline and slowly converge toward the natural rate, in the neighbourhood of

6.5 per cent. However, like the 1981-1982 recession, the decline in the unemployment rate is projected to be relatively slow. Although this decline should reduce the cost of UI benefits in the medium and long term, high unemployment rates are expected to continue to pressure UI benefits for a number of years.

- UI benefits are a function of industrial wages. The anticipated decline in the growth of wage settlements in the upcoming decade should limit the pressure on UI benefits. However, because growth in maximum benefits are heavily influenced by past growth (8-year moving average with a two-year lag) maximum benefits are likely to grow faster than average industrial wages up to the year 2000.

- Finally, it is useful to remember that, because UI benefits are fully funded over the medium term, taxpayers ultimately meet the cost of changes in benefits in their capacity as employees or employers.

Family Allowances[34]

Demographic evolution and indexation are the key factors in addressing future pressures on family allowances.

- The share of total population aged 17 and under is expected to decline from 25.0 to 23.3 per cent between 1990 and 2000. This will exert downward pressures on family allowances benefits.

- Family allowance benefits are indexed to CPI inflation. Inflation pressures are expected to abate significantly in the coming decade.

Provincial-Local Social Services Programs

Pressures on provincial social services programs will be examined according to the same taxonomy as in sub-Section 3.3. Pressures on CAP-related programs are examined first. This is followed by a review of the pressures on non-CAP related programs.

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34. Family Allowances and tax assistance have been combined into a unified child tax benefit in the February 1992 budget. The main determinants will remain demographics and indexation -- the CPI rate minus three percentage points.

CAP-Related Programs

General Assistance

- The increase in the unemployment rate as a result of the 1990-1991 recession will have an upward impact on the cost of general assistance. This effect could persist through the first half of the decade as the unemployment rate is not expected to decline rapidly in the coming years. This pressure is likely to be compounded by the positive correlation, generally observed, between high unemployment rates and the duration of unemployment; a greater proportion of the unemployed are likely to exhaust their UI benefits and to become welfare recipients.

- Increased immigration and the influx of refugees will create some pressures on general assistance programs. This pressure is expected to be most severe in Ontario, British Columbia, Québec, and Newfoundland.

- The tightening of accessibility to unemployment insurance benefits has a spillover effect on provincial-local general assistance programs.

- The shift towards more part-time, low-paying, and temporary jobs since the last recession and the growing mismatch between labour force skills and those required by employers will also apply pressure to general assistance programs.

- The rapid growth in the number of single parents.

Other CAP-Related Programs

- The expected increase in the child welfare caseload will increase the demand for social workers.

- The number of single mothers, young offenders, and the reported number of child sexual abuse cases is increasing. All these factors apply upward pressures on social services spending.

- Pressures to develop and improve child care infrastructure will remain strong given ongoing societal changes, particularly the increased participation of women in the labour market.

- De-institutionalization translates into pressures on governments to provide services within the community. In conjunction with an aging

population, this could create increased demand for home care programs such as homemaker services.

- In recent years, a number of residential care beds have been converted into extended care beds. The increase in the average age of the population in homes for the aged and the associated need to provide more nursing and personal care will increase the average cost per recipient.

Non-CAP Related Programs

- The coverage of workers' compensation benefits is likely to be extended. The increased recognition of stress-related diseases associated with the workplace could also bolster the demand for these benefits.

- Increased attention to aboriginal concerns and outstanding land claims will pressure provincial social spending.

4.3 Mechanical Extrapolations of the Cost of Health, Education and Social Services Programs

The previous analysis has identified, in a qualitative manner, a number of specific cost pressures in the areas of health, education, and social services. A more quantitative illustration of the long-term evolution of these costs can be provided by developing extrapolations on the basis of assumptions concerning the economic and demographic outlook and the degree of real enrichment of the various programs. Although the focus of the analysis is on developments over the 1990s, it is interesting to have a longer-term perspective on future cost pressures, especially with respect to the impact of demographic pressures which are slow to unfold. Extrapolations cover social services for the provincial-local and federal administrations and education and health at the provincial-local level. As indicated earlier, these components represent the core of program spending at each level of government.

While the long-term economic and demographic outlook is mainly beyond the scope of policy matters, the degree of real enrichment of programs is more amenable to policy choice. Hence, it is useful to present different extrapolations based on varying degree of real enrichment. These extrapolations provide information on the sustainability of the degrees of enrichment considered.

In the following analysis, four alternative extrapolations have been developed for government spending trends over the 1990 to 2025 period. The economic outlook for the 1992 to 1996 period is based on federal Department of Finance projections. Thereafter, a consistent set of assumptions is adopted with respect to the main economic variables. All four extrapolations share the same demographic and economic assumptions.

It is important to bear in mind the limitations of these extrapolations. In no sense can they be considered "forecasts". They are entirely dependent on a rather static set of economic and demographic assumptions over a very long period. And they make no allowance for the normal interaction between program design and cost pressures.

4.3.1 Economic and Demographic Assumptions

Table 4.4 below summarizes the main economic and demographic assumptions used in the extrapolations. The demographic assumptions reflect Statistics Canada's Scenario 3, modified to account for most recent policy announcements with respect to immigration. The assumed fertility rate is 1.67 per cent, which is approximately equal to the current rate. Immigration is assumed to be 250,000 on average over the 1992 to 1995 period. Thereafter, the share of immigration to total population remains constant. Slower population growth, combined with an aging population, results in lower employment and labour force growth over the projection period. The decline in employment growth translates into a decline in real GDP growth: from 3.9 per cent in 1995, to 2.1 per cent in 2005, and to 1.4 per cent by 2025. The economy returns to its natural rate of unemployment of 6.5 per cent by the end of the 1990s.

Average real wage growth follows productivity growth -- which is assumed to be one per cent per year after 1995. The decline in the participation rate after 2005 reflects a composition effect related to the aging of the population. This reflects the increase in the proportion of the labour force aged 45 and over which has a lower participation rate -- participation rates for each cohort are assumed to be constant. The inflation rate is set at two per cent per year after the mid-1990s.

4.3.2 The Extrapolation Assumptions

The four extrapolations considered differ according to the assumptions about the rate of real per capita growth of the main determinants of health, education and social services programs. "Real per capita growth" is somewhat wider in scope than "real enrichment", as used

Table 4.4

Summary of Economic and Demographic Assumptions

	1990	1995	2005	2015	2025
Nominal GDP (% change)	4.0	6.2	4.3	3.7	3.4
Real GDP (% change)	0.8	3.9	2.1	1.7	1.4
Price (% change)	3.2	2.3	2.0	2.0	2.0
Labour Force (% change)	1.3	2.1	1.1	0.7	0.4
Employment (% change)	0.8	2.9	1.1	0.7	0.4
Unemployment Rate (%)	8.1	8.4	6.5	6.5	6.5
Participation Rate (%)	67.0	68.0	69.0	67.8	66.0
Growth in Labour Productivity (%)	0.1	1.0	1.0	1.0	1.0
Population Level (million)	26.6	28.3	31.4	34.4	37.1
- Growth Rate	1.4	1.2	1.0	0.9	0.7
- Population 65+ (% of total)	11.5	12.3	13.4	16.1	20.0
- Population under 18 (% of total)	24.9	24.3	22.0	20.1	19.6

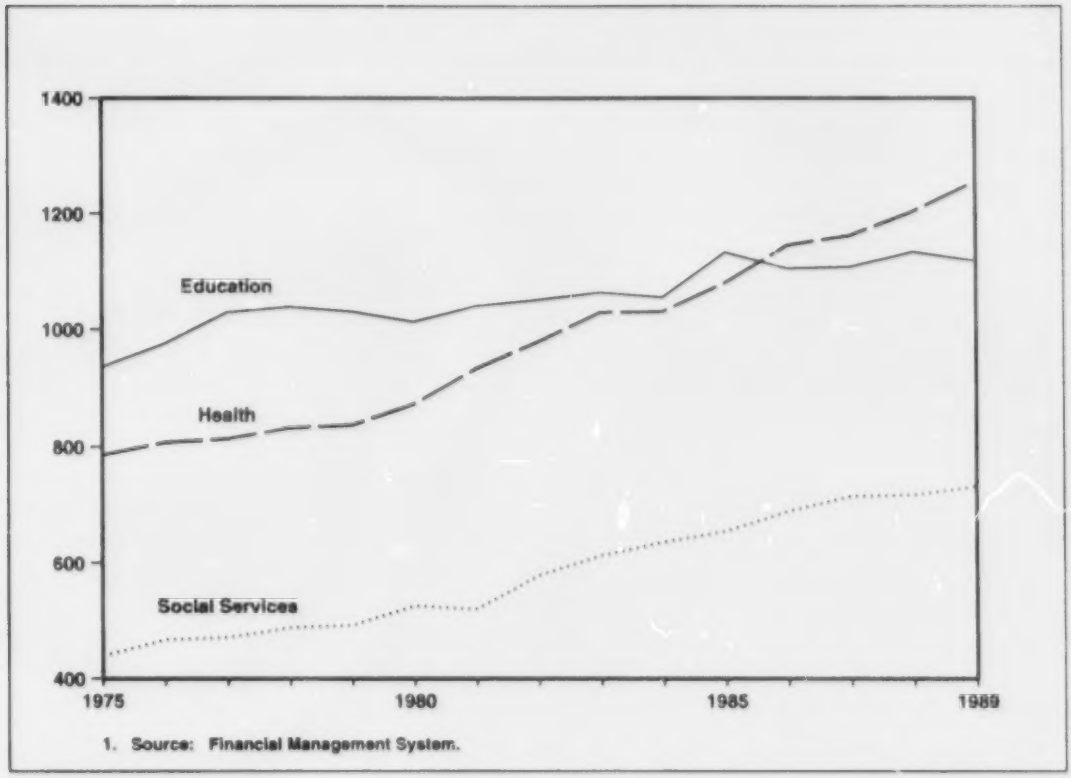
in Section 3 (i.e., the real cost per unit of service, relative to real GDP per capita). In particular, it encompasses changes in utilization/coverage of programs. It is quite appropriate to use this wider measure, given that policy has some leverage over utilization/coverage and the objective of the extrapolations is to keep constant the variables over which policy has little or no control and to vary those which are amenable to policy change.

In the case of federal government spending, rates of real per capita growth remain the same in all four extrapolations. This is justified by the fact that federal social services programs are almost all regulated by statutory formulae. For example, payments on old age pensions vary with the size of the population aged 65 and over and the inflation rate. Spending on unemployment insurance is primarily a function of the number of unemployed and growth in industrial wages. Finally, family allowances are influenced by the size of the population under 18 and the inflation rate (from which three percentage points are subtracted).

In the case of provincial government spending, the situation is somewhat different as rates of real per capita growth of the various programs are more amenable to policy change (for example, funding for hospitals, teaching institutions etc.).

Chart 4 shows the evolution of real per capita spending on education, health and social services at the provincial-local level between 1975 and 1989.

Chart 4
Real Per Capita Spending on Social Programs[1]
Provincial-Local Sector
(dollars)



1. Source: Financial Management System.

Table 4.5 reviews the historical evolution of the main components in real per capita terms and summarizes the assumptions concerning the real per capita enrichment according to the four extrapolations.

Extrapolation One

This extrapolation is designed to isolate the impact of demographic factors on government spending. It assumes that provincial and local governments introduce measures to reduce the real per capita growth of health, education, and social services programs from the average

Table 4.5

Assumptions Underlying the Long-Term Extrapolations of Education, Health, and Social Services Spending at the Provincial-Local Level

Variable	Average Annual Growth Rate of Per Capita Spending (%)				Real Per Capita Growth Rates			
	Nominal	Real	Nominal	Real	Ext.1	Ext.2	Ext.3	Ext.4
Hospital Spending	76-77 to 88-89		84-85 to 88-89					
. wages and benefits	8.8	2.6	4.8	1.2	Real	-[1]	prod.[2]	2.0
. Medical & surgical supplies	12.9	6.7	15.2	11.6	per	7.0	7.0	7.0
. drugs	13.0	6.8	18.9	15.3	capita	7.0	7.0	7.0
. other	10.1	3.9	3.2	-0.4	growth	2.0	2.0	2.0
. total	9.3	3.1	5.2	1.6	phased-out	-[1]	-	-
					to zero			
Medical Care Spending	1977 to 1987		1982 to 1987		by 2005[1]			
. physicians	11.5	5.1	10.1	6.5		-[1]	prod.[2]+1.0	5.0
. other professionals	13.1	6.7	5.8	2.2		-[1]	prod.[2]+1.0	6.5
. drugs	18.1	11.7	15.2	11.6		10.0	10.0	10.0
. total	12.4	6.0	10.5	6.9		-	-	-
Elementary and Secondary Education Spending	76-77 to 86-87		81-82 to 86-87					
. teachers' salaries	7.5	1.0	5.8	1.5		-[1]	prod.[2]	1.0
. capital spending	6.4	-0.1	6.6	2.3		3.0	3.0	3.0
. other operating spending	8.2	1.7	5.6	1.3		1.5	1.5	1.5
. total	7.6	1.1	5.8	1.5		-	-	-
Postsecondary Education Spending	76-77 to 86-87		81-82 to 86-87					
. wages and salaries	8.4	1.9	6.1	1.8		-[1]	prod.[2]	2.0
. capital spending	9.6	3.1	7.4	3.1		3.0	3.0	3.0
. scholarships, student aids and others	10.5	4.0	12.3	8.0		7.0	7.0	7.0
. total	8.8	2.3	6.9	2.6		-	-	-
	75-76 to 89-90		84-85 to 89-90					
Social Services Spending	11.4	3.7	7.9	2.9		3.0	3.0	3.0

1. Real per capita growth phased down to zero by 2005.

2. Rate of growth of labour productivity.

Sources: Financial Management System; Statistics Canada and Health and Welfare Canada for the structure of health and education spending.

level over the 1976-77 to 1988-89 period to zero by the year 2005[35]. Consequently, after 2005, government spending on these programs grows in line with population and inflation. Productivity gains in the economy do not translate into a higher level of public services and the degree of utilization of services remains constant.

Extrapolation Two

This extrapolation is designed to isolate the impact of non-wage sources of real per capita growth on overall health, education and social services spending. All non-wage cost components are assumed to grow, in real per capita terms, generally in line with historical experience, although some judgement has been used in deciding which historical period is relevant. For example, the real per capita cost of medical and surgical supplies and drugs in hospitals is assumed to grow at an average annual rate of 7 per cent throughout the forecast period, which is less than during the most recent period as the implementation of new technologies is expected to increasingly reflect cost-benefit considerations. The growth of spending on pharmacare is also expected to slow as the coverage could be reduced. Real per capita capital spending on elementary and secondary schools is assumed to grow at 3 per cent per year as higher rates of capital formation are required to maintain or rebuild the existing capital stock. The real per capita cost of provincial-local social services programs is assumed to grow at 3 per cent per annum over the forecast period; this is in line with the recent past as the unemployment rate is projected to decline. All wage cost components are assumed to follow the same pattern as in the first extrapolation.

Extrapolation Three

In this extrapolation, real per capita growth rates of all non-wage spending components are the same as in the second extrapolation. Real per capita growth in most wage and salary components is assumed to be in line with productivity in the economy. The real per capita cost of physicians and other health professionals, remunerated from provincial health care insurance systems, is assumed to grow by an extra one percentage point per annum over productivity, reflecting a continuation of the positive trend toward more medical services per capita. This extra

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35. The assumption of a gradual slowing in the real enrichment growth rate is necessary in light of the strong growth in per recipient costs observed over recent years.

one per cent translates into an increase of 0.9 percentage points of GDP by the year 2025.

Extrapolation Four

In this extrapolation, real per capita growth of all cost components increases roughly in line with historical experience. The difference with the preceding extrapolation relates to the growth of real per capita wage and salary costs in the health and education sectors. This growth is particularly strong for medical care personnel, in line with the historical experience.

4.3.3 The Empirical Results

Extrapolation One

From 1990 to 2025, total government spending on health, education, and social services declines from 20.0 per cent of GDP to 16.6 per cent or by 3.4 percentage points (Table 4.6). The federal spending ratio drops 0.9 percentage points while the provincial-local ratio declines 2.5 percentage points. The federal results will be the same for all four extrapolations, given that federal spending will be unaffected by the variations considered in real per capita growth rates of spending components by assumption.

At the provincial-local level, education and social services account entirely for the spending decline over the whole period. Health spending rises until the year 2000, but falls thereafter, reflecting the phase-down to zero in the real per capita growth of spending components between now and 2005. This effect dominates the upward pressure arising from population aging. The declines in real per capita growth of spending also contribute to the decline in the education and social services spending ratios, but only after 1995. The effect of the decline in real per capita spending growth rates is reinforced, for education spending, by the low birth rate and, for social services spending, by the projected decline in the unemployment rate.

At the federal level, the rise in the old age pension ratio after 2005 reflects the impact of an aging population. Guaranteed income supplement payments fall from 0.6 to 0.2 per cent of GDP between 1995 and 2025 reflecting the assumptions that pensioners' incomes from other sources continue to increase faster than the GIS threshold and that there is

Table 4.6
Extrapolation One
Health, Education and Social Services Trends
(per cent of GDP)

	1990	1995	2000	2005	2015	2025
Total Government	20.0	21.1	20.0	19.0	17.2	16.6
Federal	5.3	5.2	4.7	4.4	4.3	4.4
Old Age Pensions[1]	1.9	2.0	2.0	1.9	2.0	2.3
Guaranteed Income Supp.	0.6	0.6	0.5	0.4	0.3	0.2
Spouses' Allowance	0.1	0.1	0.1	0.1	0.1	0.1
Family Allowances[1]	0.4	0.3	0.3	0.2	0.2	0.1
Unemployment Insurance	2.3	2.2	1.8	1.8	1.7	1.7
Provincial-Local	14.7	15.9	15.3	14.6	12.9	12.2
Health Care	5.9	6.5	6.6	6.5	6.2	6.2
Education	5.3	5.3	4.8	4.4	3.5	3.2
Social Services	3.5	4.1	3.9	3.7	3.2	2.8

1. Reported gross of the tax-back

no increase in real benefits per capita. The spouses' allowance ratio remains constant at 0.1 per cent of GDP. Family allowance payments decline 0.3 percentage points as a proportion of GDP from 1990 to 2025 reflecting the decline in the proportion of population aged 17 years old and under and the assumed continuation of current indexation arrangements. Finally, unemployment insurance benefits as a proportion of GDP decline significantly as the number of beneficiaries declines with the unemployment rate.

Extrapolation Two

Total health, education, and social services spending increases from 20.0 to 24.0 per cent of GDP under this extrapolation (Table 4.7). The total spending ratio begins to diverge from the Extrapolation One in 2000 and the difference increases thereafter.

Provincial-local health care costs rise from 5.9 per cent to 8.9 per cent of GDP. This is mainly due to the strong real per capita growth of spending on prescribed drugs and medical supplies. As evident in Extrapolation One, the added cost burden arising from an aging population is minimal. The education spending ratio continues to decline as the assumed real per capita growth of non-wage costs, which represent some 40 per cent of total costs, is swamped by the downward cost impact

Table 4.7
Extrapolation Two
Health, Education, and Social Services Trends
(per cent of GDP)

	1990	1995	2000	2005	2015	2025
Total Government	20.0	21.2	20.9	21.1	21.9	24.0
Federal	5.3	5.2	4.7	4.4	4.3	4.4
Provincial-Local	14.7	16.0	16.2	16.7	17.6	19.6
Health Care	5.9	6.6	7.1	7.4	7.9	8.9
Education	5.3	5.3	4.9	4.8	4.4	4.5
Social Services	3.5	4.1	4.2	4.5	5.3	6.2

resulting from demographic changes. The social services ratio increases dramatically as real per capita spending for this component is assumed to grow 3 per cent per annum. In total, provincial-local health, education, and social services spending is expected to increase from 14.7 to 19.6 per cent of GDP between 1990 and 2025.

Extrapolation Three

In addition to non-wage cost components growing at their historical real rates, real wages and salaries are now assumed to grow generally in line with productivity. This has a major impact on spending at the provincial-local level after 2000 (Table 4.8). Social services spending is unchanged from the previous extrapolation. Education spending now remains relatively stable at some 5.0 per cent of GDP. The impact of the assumed increase in real per capita cost components now offsets the demographic effects. Health spending doubles as a proportion of GDP over the 1990-2025 period with most of the increase relative to Extrapolation Two occurring after 2000.

Extrapolation Four

The assumption that real per capita health and education spending continues to grow at rates recorded over the last fifteen years results in a further significant increase in spending ratios (Table 4.9). Total government health, education, and social services spending as a proportion of GDP rises from 20.0 per cent in 1990 to 33.4 per cent in 2025. The increase accelerates after 2005 as real economic growth falls

Table 4.8
Extrapolation Three
Health, Education, and Social Services Trends
(per cent of GDP)

	1990	1995	2000	2005	2015	2025
Total Government	20.0	21.3	21.2	21.9	24.0	27.8
Federal	5.3	5.2	4.7	4.4	4.3	4.4
Provincial-Local	14.7	16.1	16.5	17.5	19.7	23.4
Health Care	5.9	6.7	7.3	8.0	9.5	11.9
Education	5.3	5.3	5.0	5.0	4.9	5.3
Social Services	3.5	4.1	4.2	4.5	5.3	6.2

Table 4.9
Extrapolation Four
Health, Education, and Social Services Trends
(per cent of GDP)

	1990	1995	2000	2005	2015	2025
Total Government	20.0	21.3	21.4	22.6	26.4	33.4
Federal	5.3	5.2	4.7	4.4	4.3	4.4
Provincial-Local	14.7	16.1	16.7	18.2	22.1	29.0
Health Care	5.9	6.7	7.5	8.7	11.8	17.3
Education	5.3	5.3	5.0	5.0	5.0	5.5
Social Services	3.5	4.1	4.2	4.5	5.3	6.2

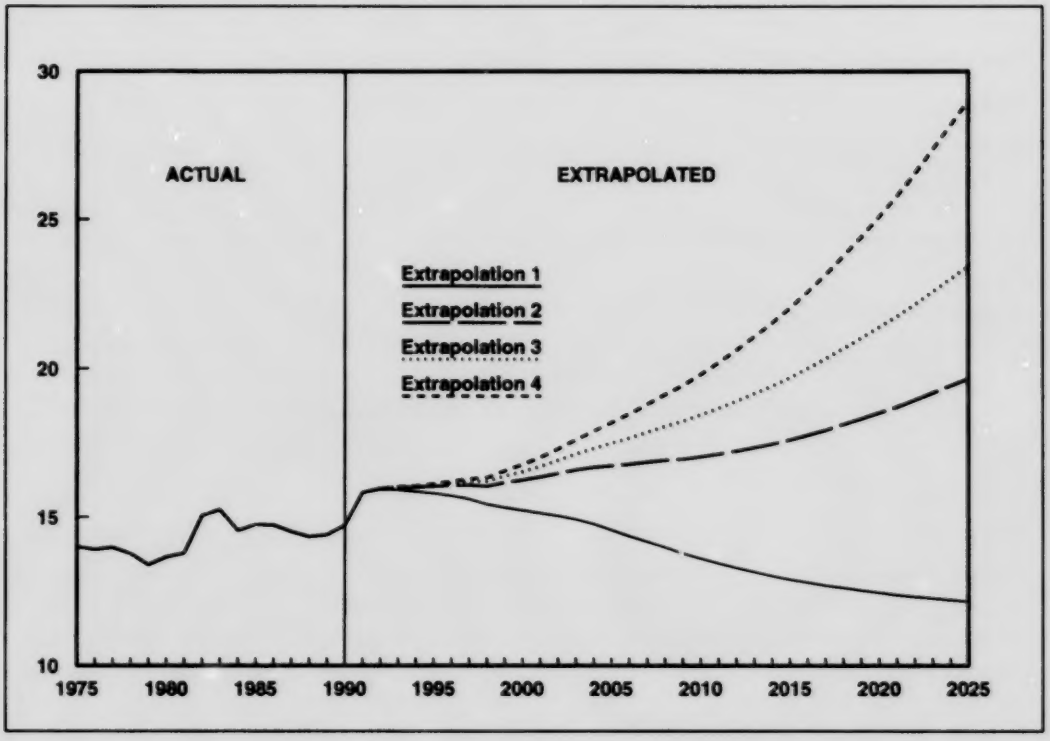
below the assumed growth in real per capita cost components. Provincial-local spending rises from 14.7 per cent of GDP in 1990 to 29.0 per cent in 2025. Provincial-local sector health care costs rise from 5.9 per cent to 17.3 per cent of GDP. Education spending is only slightly higher than in Extrapolation Three as real wage growth was assumed to grow in line with productivity.

4.3.4 Summary of the Extrapolations

The key messages that emerge from these extrapolations are:

- If demographic factors alone were the only influence on costs over the extrapolation period, government spending would probably fall as a proportion of GDP (Extrapolation One, Chart 5).

Chart 5
Alternative Extrapolations of Provincial-Local HSE Spending
(per cent of GDP)



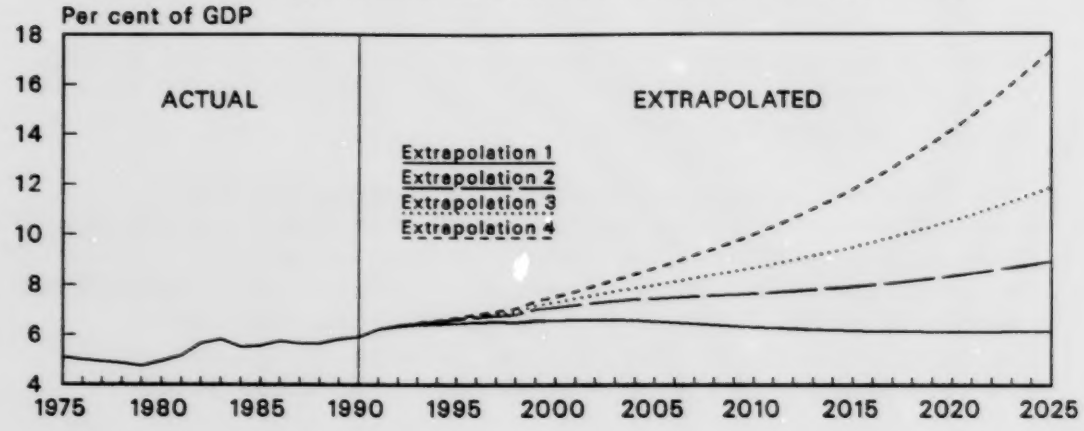
- This fall is reflected at the federal level and at the provincial-local level in education and social services spending. However, an increase in health spending provides a modest offset (Extrapolation One, Chart 6). At the federal level, demographics apply upward pressures on old age pensions but downward pressures on family allowances.

- Real per capita growth in non-wage cost components (Extrapolation Two) has a significant impact on provincial-local social welfare and health care spending (Chart 6).

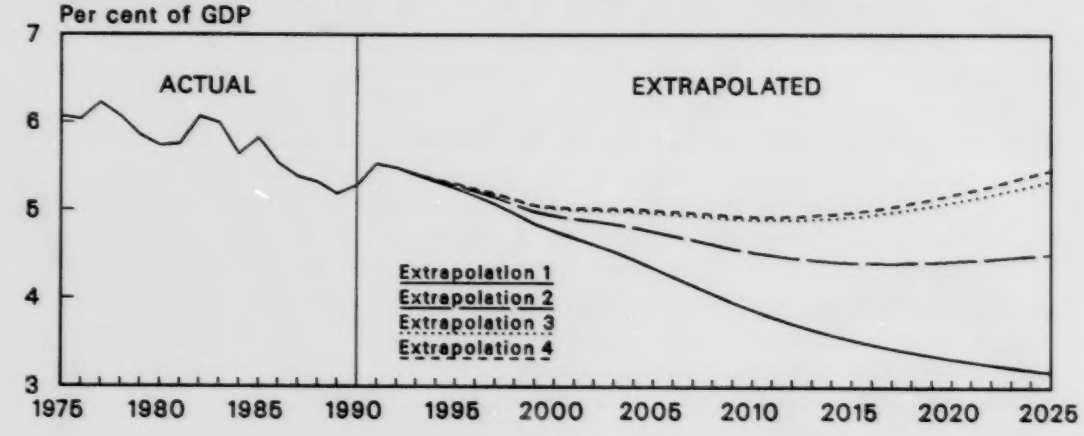
- Sustained high unemployment rates are expected to maintain upward pressure on social services spending in the first half of the 1990s.

- When real wage growth is stepped-up to grow in line with productivity (Extrapolation Three), provincial-local health spending as a proportion of GDP increases significantly.

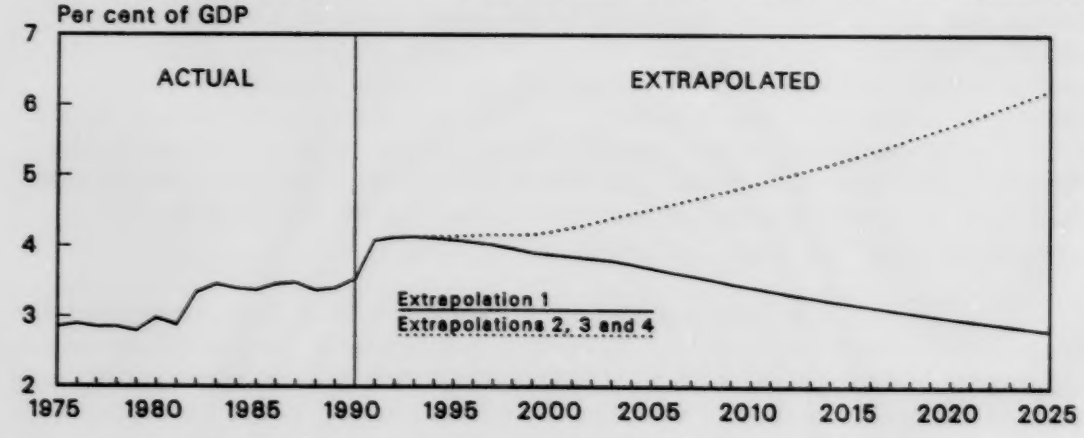
Alternative Extrapolations of Provincial-Local Health Spending



Alternative Extrapolations of Provincial-Local Education Spending



Alternative Extrapolations of Provincial-Local Social Services Spending



- When all real per capita cost components grow at historical average rates (Extrapolation Four), provincial-local health and social services spending increase very rapidly.

- It is important to bear in mind that the progressively higher spending pressures at the provincial-local level, relative to the federal level, in Extrapolations Two, Three and Four are entirely a product of the assumption that growth in real per capita cost components is not stepped-up at the federal level. In Extrapolation One, where demographic factors are the only cost influence, both levels of government share in the overall reduction in spending pressures.

4.3.5 Sensitivity of Spending to Key Economic Parameters

The economic assumptions underlying the analysis in this study are felt to be "central" tendencies of future developments. The projections of the Economic Council, WEFA, Data Resources Canada, Informetrica and Focus were reviewed in order to place some perspective on the economic assumptions and projections presented in this study (Table 4.10).

According to the private sector forecasts reviewed, real growth in the 1990s should average 2.7 per cent compared to 3.1 per cent in the 1980s. Despite relatively strong average real growth projected over the 1990s, the unemployment rate is expected to remain relatively high and to average a level only marginally lower than in the 1980s. Nevertheless, by the year 2000, the unemployment rate is projected at 7.6 per cent. The persistence of high unemployment rates in the first half of the 1990s, despite relatively strong economic growth, is a development similar to that observed following the 1981-1982 recession. Both short and long term nominal interest rates are projected to decline in the 1990s to reach levels much lower than the average levels of the 1980s. However, real interest rates in the 1990s are not expected to be lower than in the preceding decade. According to these projections, both the real 90-day commercial paper and the average 10-year industrial bond rates should be almost unchanged. It is also worth noting that the average private sector forecast for CPI inflation significantly exceeds the inflation targets set out in the February 1991 federal budget. On the whole, these alternative projections would tend to imply somewhat stronger pressures on the growth of government spending over the course of the 1990s.

It has been emphasized in previous sections how dependent the extrapolation results are on the economic, demographic, and real per capita cost growth assumptions chosen. Clearly, different assumptions could have produced markedly different results. In particular, different assumptions

Table 4.10
An Overview of the Private Sector Projections[1]
(per cent)

	1980s average	1992 to 1995 Average	1990s average	Value for year 2000
Real GDP Growth	3.1	3.7	2.7	2.9
Unemployment rate	9.3	9.5	8.9	7.6
CPI Inflation	6.5	3.1	3.6	3.4
90-day Comm. Paper	11.5	8.6	8.8	7.4
Real	5.0	5.5	5.2	4.0
10-year Indust. Bond[2]	12.6	9.9	9.6	8.1
Real	6.1	6.8	6.0	4.7

1. Average of the Economic Council of Canada (July 1991), WEFA (May 1991), Informetrica (June 1991), Focus (April 1991), and DRI Canada (July 1991) forecasts. Reference to these forecasts should not be interpreted as indicating the support of the working group for the results presented in the table.

2. Focus' forecast is not included in the average.

about economic factors such as inflation, interest rates, and productivity could substantially alter the profile of spending over the extended time period chosen.

Given that there are many different views within the private and government sectors on how the economy might evolve over a short period, let alone over 30 years, the study tested the sensitivity of spending to shocks in three selected economic parameters. The three shocks performed were:

i) A sustained one percentage point increase in wage growth;

ii) A sustained 100-basis-point increase in all nominal interest rates; and,

iii) A sustained half percentage point increase in labour productivity.

Table 4.11 presents the impact of the wage shock. The impact in each province is measured on a PLH basis, as defined in the Canadian National Accounts system. It is assumed that the wage rate increase will impact immediately on wage bills. Also, it is assumed that government employees' supplementary labour income would be affected directly by the increase in the wage bills.

Table 4.11

Sensitivity Analysis
Consolidated Provincial-Local-Hospital Sector

(National Accounts Basis – Calendar Year 1990 for the first year)
($ million)

	One-per-cent increase in the growth rate of wages		
	year one	year two	year three
Newfoundland	10	21	32
Prince Edward Island	5	10	16
Nova Scotia	25	52	81
New Brunswick	15	31	49
Québec	160	330	517
Ontario	250	515	808
Manitoba	30	62	97
Saskatchewan	25	52	81
Alberta	60	124	194
British Columbia	65	134	210
Yukon	2	4	6
Northwest Territories	4	8	13
Total Provincial	650	1343	2104
Federal	150	309	485

In total, a one-per-cent increase in wage growth results in a $800-million increase in the combined federal and provincial wage bills in the first year (1990), cumulating to $2.6 billion after three years. Over 80 per cent, or $2.1 billion, of this impact occurs in the PLH sector[36].

Table 4.12 presents the impact on federal and provincial net[37] debt charges of the nominal interest rate shock[38]. Key parameters are the

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36. It is important to note that the reported impact on government spending can not be associated directly with the impact on the government budget balances. An economy-wide increase in the wage rate would also have a positive impact on government revenues, particularly personal income taxes. The largest fiscal deterioration is obtained if we interpret the shock as the opening of a gap between private and public sector wages. In this case, the offsetting impact on government revenues is small.

37. The impact on net debt charges is a better indicator of the fiscal pressure associated with an increase in interest rates, especially at the provincial level, as some jurisdictions own a significant amount of assets.

38. A more realistic shock would have been an increase in short-term interest rates that would have been allowed to feed into other interest rates through the term structure. However, this approach would require a complete model of the term structure and, hence, would be much more difficult to implement.

Table 4.12

Impacts on Provincial[1] and Federal[2] Net Debt Charges of a 100-Basis-Point Increase in Interest Rates

($ million and per cent of Total Revenues)

Year	One		Two		Three		Four	
	$M	%	$M	%	$M	%	$M	%
Newfoundland	4	0.1	9	0.3	13	0.4	18	0.6
Prince Edward Island	0	0.0	1	0.1	2	0.2	2	0.2
Nova Scotia	4	0.1	12	0.3	20	0.5	26	0.6
New Brunswick	7	0.2	14	0.4	21	0.5	29	0.7
Québec	69	0.2	127	0.4	190	0.5	255	0.7
Ontario	49	0.1	150	0.3	240	0.6	325	0.8
Manitoba	2	0.0	11	0.2	27	0.5	38	0.8
Saskatchewan	30	0.7	45	1.1	60	1.5	75	1.8
Alberta[3]	10	0.1	22	0.2	28	0.2	36	0.3
British Columbia	0	0.0	20	0.1	45	0.3	70	0.5
Total Provincial	175	0.1	411	0.3	646	0.5	874	0.7
Federal	1,700	1.4	2,600	2.1	3,100	2.5	3,500	2.8

1. Provincial estimates are based on Statistics Canada unpublished data. These estimates are based on the 1990 gross debt structure and on the 1989 asset structure.

2. Federal estimates are based on the interest sensitivity analysis done for the February 1990 Budget.

3. Alberta is in a net asset position, but liabilities are of shorter maturity than assets.

stock of government interest bearing debt and its average term to maturity. Not surprisingly, the impact on federal net debt charges considerably exceeds the impact on provincial net debt charges. In the first year, the impact on federal finances amounts to $1.7 billion (1.4 per cent of total revenues), growing to $3.5 billion (2.8 per cent of total revenues) after four years. At the provincial level, the impact amounts to approximately $175 million in the first year (0.1 per cent of total revenues) and increases to $875 million after four years. It is interesting to note that the impact on the combined provincial governments' finances is proportionally smaller than the relative importance of total provincial net debt to federal net debt. This reflects the longer term to maturity of the provincial debt, which limits the short term impact on net financing costs of interest rate increases.

Finally, labour productivity was raised by half a point to 1.5 per cent from 1995 on. It was assumed that government spending would remain constant except for UI spending as maximum insurable earnings are indexed to productivity and the GDP deflator. For Extrapolation Four, this shock implies that total government spending on

HSE would be 28.9 per cent of GDP by 2025, 4.5 percentage points lower than in the base case.

4.4 Pressures in Other Areas of Spending

This section has concentrated so far on specific pressures in the most important areas of program spending -- health, education, and social services spending. Pressures are now reviewed briefly in other areas of spending. The analysis proceeds according to the FMS categories of spending used previously in the paper.

4.4.1 Unfunded Employee Pension Liabilities

The main pressure expected within the general services category is related to provincial governments' contributions to employee pension funds. Most government employee pension funds in Canada have a defined-benefit structure. This means that governments bear the risk associated with actuarial deficiencies in the Funds. Governments must then finance their contributions as employers as well as the amortization of any actuarial deficiencies in the Funds. All provinces report actuarial deficiencies in their employee retirement funds[39]. Total unfunded pension liabilities at the provincial level are estimated at some $34.8 billion (Table 4.13). These liabilities will have to be met in the future on a pay-as-you-go basis or will have to be amortized in anticipation of these future payments. The general accounting practice in the provinces is to amortize these liabilities over a period of roughly 20 years.

It should be noted that provinces have different actuarial procedures and statutory responsibilities to meet payments of fund deficiencies.

The federal government does not face such pressure from its employees' pension funds as it has generally followed the practice of amortizing over a short period of time (5 years) any unfunded liabilities in these accounts. However, contrary to some provinces, the federal pension funds do not hold assets.

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39. Pension funds in the Yukon and Northwest Territories are included in the federal Superannuation Fund.

Table 4.13
Unfunded Pension Liabilities

	Amount ($ billion)	Description
Newfoundland	1.9	Public Service, Teachers, Uniform Workers and Members of House Assembly (Dec. 1990).
Prince Edward Island	0.2	Civil Service (April 1990) Teachers (July 1987) and M.L.A. (April 1990).
Nova Scotia	1.1	Public Services and Teachers (March 1990).
New Brunswick	1.5	Total reported (various dates).
Québec	10.8	Total reported (December 1990).
Ontario	10.3	Public Services and Teachers (January 1990).
Manitoba	1.3	Total reported (March 1990).
Saskatchewan	1.2	Total reported (various dates).
Alberta	6.1	Total reported.
British Columbia[1]	0.5	Public Services and Colleges (April 1991).
Total	34.8	

1. The unfunded liabilities of Teachers' Pensions Fund is estimated at $1.6 billion but the government does not have the statutory responsibility to meet the payment of the fund deficiencies.

4.4.2 Protection of Persons

The most important pressures in this area are likely to come from national defence, courts of law, correction and rehabilitation, and policing.

- **National Defence:** The conventional military threat in Europe has all but disappeared. This provides hope for savings in the defence area without jeoparding Canada's continuing commitment to NATO. The 1992 Budget foreshadowed savings of $2,185 million over five years in this area.

- **Court of Law:** The recent Supreme Court judgment limiting the delay before a trial will create spending pressures on the court system -- new judges, Crown Attorneys, support staff etc. Further, Judges and Crown Attorneys recently received wage increases in order to maintain competitiveness with similar occupations in the

private sector. A probable increase in the criminality rate in the future, despite the expected relative decline in the 18 to 35 age group, would impose additional pressure on the court system and policing.

- **Correctional services:** Many jails are too full and old. This, combined with a possible increase in the criminality rate, will create pressure for additional spending on the correctional system.

- **Policing:** The federal decision to increase the share of provincial financing for jurisdictions using RCMP services will have a direct impact on province's spending. The added complexity of criminal cases due to the Charter of Rights should increase spending on police and courts.

4.4.3 Resource Conservation and Industrial Development

The price of grains could remain weak in the coming decade as a result of the current subsidy war among the largest exporting countries. Unless a global solution is found to this problem, it is likely that governments in Canada will be pressured to continue to actively support the farm sector.

In the case of the forest industry, there will be pressure to step-up reafforestation in coming years. However, it is not clear what should be the relative contributions of governments and the private sector in financing these operations.

4.4.4 Environment

There will be strong pressure in the coming decade to spend in this area. Environmental protection has become a major concern for Canadians. This will pressure governments to assign a continuing high priority to environmental issues. Further, a number of specific environmental problems will need to be addressed in the coming decade: acid rains, the high level of pollution in the Great Lakes, etc. In addition, there is a growing need to repair aging sewerage and water transportation infrastructure in many cities.

4.4.5 Labour Force Development

As indicated previously, the increasing pressure to be internationally competitive will have a major effect on patterns of trade.

Shifts in the composition of exports and imports and production technology will be reflected in the jobs available to Canadians. In order to minimize the cost associated with the redeployment of labour, governments may be pressured to increase spending on training programs. Again the appropriate contributions of public and private funds for training activities is not clear.

4.4.6 Research Establishments

Innovation and development/adoption of new technologies are important elements in creating a competitive economy and promoting high standards of living. Although it is not clear that governments should bear the main responsibility for the financing of research activities, it is likely that, in the coming years, they will be pressed to shoulder a significant portion of research spending. This may take the form of direct financial assistance for projects initiated by the private sector or undertaking research in government establishments.

4.5 Pressures Related to the Aging of Public Infrastructure

The study has highlighted on a number of occasions the pressures on spending related to the aging of public infrastructure. This is particularly evident in the transport sector. In addition, the trend away from rail transportation in the last decade has accelerated the depreciation of roads by increasing the truck transportation payload. In the case of the urban transportation infrastructure, environmental and energy conservation concerns and other problems such as urban congestion will continue to pressure provincial and local governments to provide improvements.

The extent of future pressures to spend more on infrastructure will be difficult to determine. There is a complex and changing relationship between the appropriate stock of infrastructure and other economic variables such as GDP. Notwithstanding these complexities, it is possible to derive the flow of infrastructure investment needed to satisfy "mechanical" relationships, such as an historically-based capital stock to GDP ratio.

Table 4.14 reports the evolution of provincial and federal net capital stock as a proportion of GDP since the mid-1970s. All jurisdictions, with the exception of Alberta, Saskatchewan, the Yukon, and the Northwest Territories recorded a decline in their net capital stock ratio over this period. The increase in Alberta and Saskatchewan reflects strong investment largely financed by large oil revenues. In the case of both

Table 4.14

The Proportion of Gross Investment to GDP Required to Restore the Net Public Stock of Capital to its Mid-1970s Level

(per cent of GDP)

	1975		1989		Required Gross Investment ratios		Critical Investment Ratios
	Gross Invest.	Net Stock	Gross Invest.	Net Stock	Over 10 Years	Over 20 Years	
Newfoundland	8.5	88.7	3.4	72.2	7.1	6.4	4.9
Prince Edward Island	6.9	100.5	3.7	73.0	8.6	7.4	5.0
Nova Scotia	4.4	67.7	2.8	47.3	5.9	5.0	3.2
New Brunswick	6.6	81.2	3.0	68.7	6.3	5.8	4.7
Québec	3.4	50.1	2.0	40.7	4.0	3.6	2.8
Ontario	2.4	41.0	1.5	27.4	3.7	3.1	1.9
Manitoba	2.3	54.1	1.9	41.4	4.5	3.9	2.8
Saskatchewan	3.5	56.5	3.3	61.0	-	-	4.1
Alberta	3.2	45.5	2.7	54.6	-	-	3.7
British Columbia	2.9	42.7	2.1	34.3	3.5	3.1	2.3
Yukon	6.3	88.1	9.0	100.0	-	-	6.8
Northwest Territories	7.5	71.8	6.9	81.8	-	-	5.5
All Provinces	3.0	47.2	2.0	37.9	3.8	3.4	2.6
Federal	0.6	11.9	0.3	6.9	1.1	0.9	0.4

territories, a deliberate effort has been made in recent years to improve and expand infrastructure.

The fifth and sixth columns of Table 4.14 show the proportions of gross investment to GDP that would be required to restore the net capital stock ratios to their 1975 levels in each jurisdiction over 10-year and 20-year periods respectively. The methodology used to determine the required gross investment ratio is presented in Annex 4.6 of this section. These targets were chosen because the net capital stock ratios started to decline significantly after 1975 in most jurisdictions.

Overall, it appears that substantial increases in public investment would be required to restore the 1975 net capital stock ratios. A 10-year restoration period would require an increase in gross investment ratio from 0.3 to 1.1 per cent at the federal level and from 2.0 to 3.8 per cent at the PLH level. A 20-year restoration period would require an increase in the gross investment ratio to 0.9 per cent at the federal level and to 3.4 per cent at the PLH level.

Finally, the last column of Table 4.14 presents estimates of the gross investment ratios that would be required to maintain net capital stock ratios at current levels. At both the federal and PLH levels, gross investment ratios would have to increase by roughly 25 per cent in order to maintain the current net capital stock ratios.

4.6 Annex: Derivation of the Gross-Investment-to-GDP Ratio Required to Achieve a Target Net-Capital-Stock-to-GDP Ratio

The purpose of this annex is to derive a formal relationship for the proportion of gross investment to GDP (gross investment ratio) required to achieve a target proportion of net capital stock to GDP (net capital ratio) over a certain time period.

The derivation begins with the basic identity defining the evolution through time of the net capital stocks.

$$K_t = K_{t-1} + I_t - d * K_{t-1} \qquad (1)$$

Where:

K = the level of the net capital stock
I = the level of gross investment
d = the depreciation rate

Since this identity holds for every period, we have for:

t=1,

$$K_1 = (1-d)*K_0 + I_1$$

t=2,

$$K_2 = (1-d)*K_1 + I_2$$

.
.

t=s,

$$K_s = (1-d)*K_{s-1} + I_s$$

Substituting recursively, we obtain:

$$K_s = I_s + (1-d)*I_{s-1} + \ldots + (1-d)^{(s-1)} I_1 + (1-d)^s K_0 \qquad (2)$$

Expressing equation (2) as a proportion of GDP, we get:

$$\frac{K_s}{Y_s} = \frac{I_s}{Y_s} + \frac{(1-d)*I_{s-1}}{Y_s} + \ldots + \frac{(1-d)^{(s-1)} I_1}{Y_s} + \frac{(1-d)^s K_0}{Y_s} \qquad (3)$$

Assuming a constant growth rate "g" for GDP over time, it is possible to rewrite equation (3) as:

$$\frac{K_s}{Y_s} = \frac{I_s}{Y_s} + \frac{(1-d)*I_{s-1}}{(1+g)*Y_{s-1}} + \ldots + \frac{(1-d)^{(s-1)} I_1}{(1+g)^{(s-1)}*Y_1} + \frac{(1-d)^s K_0}{(1+g)^s Y_0} \qquad (4)$$

Defining $K_t/Y_t = k_t$ and $I_t/Y_t = i_t$ for all t, it is possible to write:

$$k_s = i_s + \{(1-d)/(1+g)\}*i_{s-1} + \ldots + \{(1-d)/(1+g)\}^{(s-1)} i_1 + \{(1-d)/(1+g)\}^s k_0 \qquad (5)$$

Assuming that the gross investment ratio remains constant over time, it is possible to write:

$$k_s = i * \{ 1 + \{(1-d)/(1+g)\} + \ldots + \{(1-d)/(1+g)\}^{(s-1)} + \{(1-d)/(1+g)\}^s k_0 \qquad (6)$$

Solving for i, we get:

$$\frac{k_s - \{(1-d)/(1+g)\}^s k_0}{1+\{(1-d)/(1+g)\}+\ldots+\{(1-d)/(1+g)\}^{(s-1)}} = i \qquad (7)$$

Equation (7) above relates the stock of net capital at time s to the permanent gross investment ratio required to achieve this capital ratio. In order to implement this formula, it is necessary to make assumptions with respect to the target net capital stock ratio "k^*_s", the initial net capital stock ratio "k_0", the number of years required to achieve this target "s", the annual rate of depreciation "d", and the growth in nominal GDP "g". The study assumes the average depreciation rate is 2.4 per cent, that nominal GDP grows at annual average rates of 4.7 per cent over the next 10 years and 4.3 per cent over the next 20 years.

For example, assuming also that $k_0 = .10$, $k^* = .2$, and s= 2, and substituting these values into equation (6) yield:

$$\frac{.2 - .869 * .1}{(1 + .9322)} = .059$$

In this example, the permanent gross investment ratio required to raise the net capital ratio from 10 to 20 per cent is .059.

Critical Investment Ratio

A related aspect to this exercise is to determine the level of the gross investment ratio required to maintain the net capital stock ratio to its current level. It is possible to show that the critical investment ratio is defined as:

$$i^c = \frac{(d+g)*k_0}{(1+g)}$$

For example, under the same assumptions as above, the critical gross investment ratio would be:

$$\frac{(.024 + .047) * .1}{(1 + .047)} = .0068$$

Keeping the gross investment ratio at .0068 per cent would result in a net capital stock ratio remaining constant at 10 per cent over time.

5.0 A Review of Government Spending Control Initiatives

This section reviews the measures introduced by governments to control the growth of spending, particularly in the last decade. This review is developed along three major themes:

- the identification of the global strategies used;
- the implementation of these strategies; and,
- the budget process and budget rules.

These three aspects are examined for each jurisdiction. In addition, an annex entitled Review of Federal and Provincial Cost Containment Initiatives, under separate cover, presents a detailed review of major cost-containment initiatives undertaken by the federal and provincial governments in the last few years.

5.1 Summary of the Main Conclusions

5.1.1 Global Strategies and Implementation

Fiscal strategies implemented in recent years focused on:

Achieving fiscal consolidation mainly through spending reduction

- Most jurisdictions have focused on balancing budgets or reducing deficits over a given period of time. At the federal level, the medium-term fiscal strategy has aimed at reducing the deficit through tight control over the growth of program spending and, to a somewhat lesser extent, increasing and stabilizing the revenue yield. At the provincial level, fiscal consolidation mainly focused on controlling spending, increasing the public sector's efficiency, and raising the tax yield.

Constraining the cost of government operations

Many governments have placed particular emphasis on restraining and even reducing the costs of government operations through:

- **Wage restraint**: Wages and other forms of remuneration are the largest component of the cost of delivering most public services. For this reason, controlling wage growth has been a key to controlling spending growth. Most jurisdictions have set

guidelines or regulations to freeze or restrain public sector wage growth. In some jurisdictions, there are boards to monitor remuneration in the private and public sectors. Acceptance of salary restrictions by Cabinet Ministers and MLAs has often provided an example to civil servants.

- **Reductions in person-years**: Some jurisdictions have implemented hiring restraint policies. These policies aim to preserve the standard of services to the public by making administration more efficient and streamlined. Staff have also been redeployed to areas of increasing priority, such as health, social services and the environment. Privatization, early retirement programs, and elimination of vacant positions have all contributed to reductions in government employment.

- **Tight ceilings on operations and maintenance budgets, as well as capital spending**: Some jurisdictions have imposed a freeze or a cap on increases in operations and maintenance budgets. Capital budgets have been a major target.

- **Rationalization and reduction in the number of government departments**: In many jurisdictions, departments have been eliminated, restructured or amalgamated to lower administrative costs and to rationalize program and service delivery. There has also been a reduction in the number of Boards and Commissions and a streamlining of their administrative operations.

- **Measures to increase efficiency**: The efficiency of the operations of government have been a major area of focus for government policy. Many departments have been asked to reduce their operating costs. Specific budget limits have been imposed on departments and program cost reviews and evaluations have been carried out to identify those programs/activities which could be reduced, redesigned or eliminated. This has translated into program clientele targeting, higher efficiency in program delivery, elimination of overlap and streamlining of public administration.

- **Privatization of selected programs and services/increased cost recovery**: A number of federal and provincial services have been privatized. More government services have been placed on a cost recovery basis. Fees have been established or raised for government services to provide more services without adding to fiscal imbalances.

Prioritizing and reallocating government spending

In several cases, spending control and restraint has been implemented through a top-down reallocation of priorities and a corresponding better targeting of program spending on areas of high government priority; for instance health, education, and social services. Spending restraint and, in some cases, absolute reductions have been implemented in the lower priority areas.

5.1.2 Budget Processes and Rules

Strategies implemented to control the growth of spending have been supported by some modifications to budget processes. Three main messages emerge from the review:

There has been a streamlining of the decision process

- Governments have in recent years introduced changes to the structure of Cabinet committees with the express purpose of clarifying and strengthening the setting of spending priorities, of reallocating spending from one area to another, and of ensuring that policy enhancements or new initiatives have a clearly identified source of financing.

- Most jurisdictions have established committees or sub-committees to involve all major Ministers in the spending management process. Such committees consider issues of resource allocation and spending reduction in the context of the government's overall priorities.

There is an increased reliance on multi-year planning

- Multi-year fiscal planning has allowed a better integration of planning and budgeting decisions. It has also increased governments' flexibility in planning and implementing major structural changes to programs that otherwise would be difficult to justify within a one-year time frame.

There is an increased reliance on budget rules and guidelines

- Rules have also come to prominence. At the federal level, the Spending Control Plan and the proposed Spending Control Act provide for limits on program spending for years to come. In British

Columbia, the Minister of Finance must table annually a Balanced Budget Plan implying a balanced General Fund budget over the five years covered by the plan.

5.2 Federal Cost-Containment Initiatives

5.2.1 Overall Strategy

The federal government's fiscal strategy has been dominated for some years by the need to bring the deficit and the growth of public debt under control. The growth of spending and the gradual deterioration in the revenue yield since the mid-1970s had created an unsustainable fiscal position by the mid-1980s in which spending was more than 50 per cent greater than revenues and the debt and debt service burden were increasing rapidly.

In the mid-1980s, the government adopted a medium-term fiscal strategy to reduce the deficit which involved both increasing and stabilizing the revenue yield and controlling the growth of program spending primarily by reducing and eliminating some programs and by applying strict limits to the growth of others. With the tax system, following the reforms of 1987, expected to generate a reliable revenue source in the range of 17 or 18 per cent of GDP, the emphasis of budget policy has been on controlling spending.

The persistence of deficits in the $30 billion range, due primarily to the rapid growth in debt service costs, has led the government to strengthen its policy of controlling program spending. This has been provided through the Spending Control Plan and the proposed Spending Control Act which provides for global limits on program spending.

5.2.2 Implementation of Spending Restraint

The table below showing federal spending gives an indication both of areas of relatively greater priority and areas where spending has been most restrained. Of the $21.2 billion increase in program spending since 1984-85, 50 per cent or $10.7 billion is due to the increased costs of social transfers to persons, which have grown at an average annual rate of 6.1 per cent. Cash transfers to provinces have increased at 3.6 per cent per year or by $4.5 billion, despite the strong growth in tax transfers.

Table 5.1

Federal Spending – 1984-85 to 1990-91

	1984-85	1990-91	Change	Average annual growth
	($ billions)			(per cent)
A. Major Transfers to Persons	25.1	35.8	10.7	6.1
B. Major Transfers to Other Levels of Government	18.8	23.3	4.5	3.6
(Cash and tax transfers to other levels of government)	(25.6)	(36.3)	(10.7)	(6.0)
C. Other Major Transfers				
to business	4.7	3.6	-1.1	-4.3
to other groups	6.0	8.0	2.0	4.9
D. Payments to Major Crown Corporations	4.8	4.9	0.1	0.4
E. Defence	8.7	12.1	3.4	5.6
F. Aid to Developing Countries	2.1	2.6	0.5	3.5
G. All Other Program Spending	16.8	18.0	1.2	1.2
H. Total Program Spending	87.1	108.3	21.2	3.7
I. Public Debt Charges	22.5	43.0	20.5	11.4
J. Total Budgetary Spending	109.6	151.3	41.7	5.5

Defence grew at 5.6 per cent annually or $3.4 billion. Spending in these three areas accounted for about 60 per cent of program spending but for 88 per cent of the increase.

The focus of spending reduction initiatives between 1984-85 and 1990-91 is generally shown by the areas of slower growth. Transfers to business are lower in absolute terms. Payments to Crown corporations have effectively been frozen. Operations of government, which makes up the bulk of "All Other Program Spending", have been held to a very small increase. These three components accounted for about 37 per cent of program spending in 1984-85 but only about 31 per cent of spending in 1990-91.

The decline in transfers to business reflects specific program cuts, such as the National Energy Program and heavy water production, and broad restraint measures affecting various business subsidies. Energy spending has dropped by $2.3 billion since 1984-85. Transportation subsidies have been held constant. A broad array of other programs have been reduced or constrained. The February 1991 budget imposed a further cut in total grants and contributions of $75 million in 1991-92 and $125 million per year thereafter.

The constant level of Crown corporation spending primarily reflects reduced payments to Canada Post, AECL and VIA Rail as well as a number of privatizations. Improved management and reduced employment

levels have helped contain the growth of payments to other Crown corporations and to avoid further losses such as experienced by the Mortgage Insurance Fund.

The efficiency of the operations of government has been a major area of focus for government policy. The small increase in "All Other Program Spending" is based primarily on reductions in the costs of the operations of government. The government first pursued a policy to reduce the size and improve the efficiency of the public service. At the maximum, person-years were reduced by over 12,000 relative to the peak. The government also put a cap on the increases in operations and maintenance budgets of 2 per cent. In the February 1991 budget, the government announced a wage policy which limits increases in wages over the next three years. The February 1992 Budget contained further measures to reduce costs and streamline processes. For example, non-salary operating budgets are to be reduced by 3 per cent per year from planned levels through to 1996-97 and several government bodies are to be wound up, merged or privatized. The virtual freeze on the cost of government operations over seven years has yielded some of the largest real spending reductions.

5.2.3 Budget Process and Rules

The government has introduced a number of changes in the budget process, beginning with the 1986 decision to aim for a regular February budget which would dovetail with the Main Estimates supply process. This has helped to organize and coordinate decisions on allocations among priorities. It has also facilitated a top-down approach to budget-making in that it highlights the impact of cabinet decisions on spending and deficit objectives.

The identification and selection of potential candidates for restraint or reduction poses particular problems. The Nielsen Task Force identified a wide range of candidates for restraint but many recommendations proved difficult to implement because of the lack of a process to ensure reductions were implemented even-handedly and in accordance with government priorities.

The difficulties posed by the need to allocate extremely limited resources among a range of worthwhile competing priorities prompted the government to establish a special sub-committee of cabinet in early 1989, the Spending Review Committee. This committee considers issues of resource re-allocation and spending reduction in the context of the government's overall priorities. It has been a highly effective vehicle for

reviewing and priorizing existing spending programs, both in relation to the new spending priorities which emerge and in terms of the continued relevance of established programs, and for involving more of the cabinet in difficult resource allocation decisions.

The structure of the cabinet also contributes to the objective of spending control. Two other sub-committees of cabinet, Priorities and Planning (P&P) and Operations (Ops) exercise important control. P&P ranks priorities and determines where new spending initiatives might be developed. The Ops Committee examines specific initiatives and ensures that new spending proposals do not go forward without identified sources of funding.

The Spending Control Plan, introduced in the 1990 Budget and extended in the 1991 Budget, places legislatively binding limits on spending growth in several previously open-ended areas of spending.

The establishment of a process for allocating and re-allocating resources which is largely accepted by participants has gone some way toward preventing budget slippages arising from ad hoc spending decisions. The rule that no spending initiative can go ahead without an identified source of funds, in conjunction with the process for allocating funds has helped to ensure that spending decisions are consistent with an overall fiscal framework.

When new initiatives or other spending pressures emerge, there are rules to guide departments on where they might seek a source of funds. All recent budgets have included provisions for some slippage in spending plans and some new initiatives. The nature and source of the spending pressure determines what source of funds a spending pressure might be funded from and the cabinet committee process which will consider how to manage the pressure.

Other rules also help to constrain slippages. A 25-per-cent budgetary charge on investments, loans and loan guarantees, for example, has helped to focus departments' attention on the budgetary implications of their non-budgetary programs and has helped to secure program lapses sufficient, in general, to cover losses on past activity of this type.

5.3 Provincial Cost-Containment Initiatives

5.3.1 Newfoundland

5.3.1.1 Overall Strategy

Measures have been introduced by the provincial government progressively since 1982-83 to control spending and improve operating efficiencies. The government has usually followed short-term strategies to maintain acceptable levels of spending and borrowing necessitated by a precarious credit rating. These strategies have enabled the government to deliver essential services in the province, and to continue the task of building them up to a level enjoyed in other provinces.

In order to improve operating efficiencies the province has chosen, over this period, to freeze or limit salary increases, to restrict or reduce growth in the size of the public service, to restructure and reduce the number of government departments, and to freeze capital budgets in certain areas.

5.3.1.2 Implementation of Spending Restraint

Restraint measures have usually been introduced in areas where spending is high. This includes measures relating to the salary component of spending, and the health and education sectors which account for the largest share of current account spending.

Through wage and hiring restraint policies an effort has been made to control wages and salaries, which account for approximately 50 per cent of spending.

Following the Royal Commission on Hospital and Nursing Home Costs, the health care system, which accounts for over 23 per cent of current account spending, has been undergoing a restructuring process to control increasing costs. In 1991-92, as part of the long-term strategy to re-structure the health care system, 360 acute care beds throughout the province were closed, 78 acute care beds were converted to long-term care beds, while under-utilized acute care facilities were converted into community health care clinics.

Growth in education spending, which is slightly below spending on Health, will be restrained through the integration of postsecondary

institutions (resulting from the White Paper on Postsecondary Education), reduction of program duplication within the community college structure and elimination of low enrolment or outdated courses.

5.3.1.3 Budget Processes and Rules

In order to control spending and streamline operations for both the Treasury Board Secretariat and departments, the budget process was changed in 1990-91. The new process is an envelope approach under which departments are provided allocations up front for certain categories of spending. Although departments may be requested to curtail spending and enact measures that would lead to savings in the next fiscal year the new approach provides departments with some flexibility to determine how their money should be spent.

Departmental budget submissions are reviewed by Treasury Board officials for adherence to the guidelines. Treasury Board makes recommendations directly to the Special Estimates Committee of Cabinet before submission to Cabinet for final approval. The sub-committee is chaired by the Premier and consists of the President of Treasury Board and the Minister of Finance.

5.3.2 Prince Edward Island

5.3.2.1 Overall Strategy

Considerable efforts were made to contain costs in the early period which was characterized as being highly inflationary. Budget structures put in place at that time have endured to this day and have provided an underlying basis for continuing cost control. In addition the Province engaged in major staff reductions in 1979-80 as a result of the winding down of the 15 year Comprehensive Development Plan. These reductions were generally in the economic development area.

The economic recovery of the later period led to an easing in financial pressures and less attention to cost containment. Renewed financial pressures in recent years have led the Government to consider new measures. At the present the government has a major initiative underway, known as Government Reform, to restructure government functions with the object of improved efficiency and cost effectiveness in the medium to long term.

5.3.2.2 Implementation of Spending Restraint

During the early 1980s the Government adopted a system of Global Budgeting which essentially provided a vehicle for top-down spending controls to focus departments' planning on global spending growth objectives. This system has continued and allows the Government to force departmental budgeted spending to predetermined limits.

Wages and salaries were subject to severe controls between 1983 and 1986 under the Compensation Review Act (1983) which permitted annual increases of only 2-3 per cent. Following the expiry of that program compensation increases have been in the order of 4-5 per cent per year. This continued low growth has largely been due to the low inflationary environment that prevailed in the mid-1980s. Increased payroll costs are largely attributable to a modest growth in staff that occurred in the latter period.

In 1986 the Government eliminated a large program which had been developed to subsidize the price of residential electricity. This was a major program reduction involving annual spending of $3.5 million.

The Government ended the provincial hog stabilization program in early 1989 that in 1988 had cost $5.8 million. As a substitute the Province reduced costs by entering the less generous National Tripartite Stabilization Program whereby premiums are funded equally by producers, and both levels of government.

The Government Reform process is the focus of present efforts to improve and rationalize government services and the government recently announced that four new agencies are to be created from a restructuring of several agency and departmental functions. These are the Business Development Agency, Lending Agency, Marketing Agency and Regulatory and Appeals Commission. They will take the form of consolidations of activities present across government, with a view to major economies. Intensive reviews of Education, Hospital and Health Care Services, as well as the management of government itself are presently underway. Implementation of reforms is expected in 1992 and thereafter.

5.3.2.3 Budget Processes

As noted previously the government operates under Global Budgeting whereby departments are provided spending growth factors within which they must operate.

The most difficult aspect of Budgeting arises from reliance on large federal transfers which are very difficult to forecast both in the current year and Budget year. This has led to serious difficulties in Budget planning. Major revisions to revenues have resulted in mid year "corrections" to spending, which have taken the form of account freezes, hiring freezes and the sequestration of accounts.

5.3.3 Nova Scotia

5.3.3.1 Overall Strategy

Over the last ten years, the Province of Nova Scotia has initiated a number of spending control and reduction initiatives designed to reduce spending pressures which have been experienced by most governments throughout the 1980s. While some were initiatives designed to curtail specific program costs, most were a series of broad government restraint measures applied across government in the annual budget exercises.

Budget processes throughout the 1980s were characterized by attempts to maintain the level of the wide range of essential programs and services, offered across government, particularly in the areas of health, education and social services. The emphasis was placed on achieving operation efficiencies within the programs and putting in place management systems that would assist in accomplishing these goals. Indeed improvements in the Province's fiscal position were achieved during the latter part of the decade. The recessionary pressures experienced over the last couple of years, however, have led to a further deterioration in the Province's fiscal position and have made it obvious that significant additional restraint measures will be necessary if an appropriate fiscal position is to be maintained.

5.3.3.2 Implementation of Spending Restraint

One of the most significant initiatives implemented in recent years was the Management Planning and Budgeting System (MPBS). This was a modified zero-based budgeting approach and was initiated in conjunction with a new financial accounting system for the Province. This gave the Province a financial management system which effectively did not exist before and provided the functional information necessary to affect major budget changes.

At various times throughout its use, however, a program of fiscal restraint has been delivered, usually based on global departmental budget allocations.

In the mid 1980s, the Province attempted to put in place a policy planning process. While it identified strategic objectives for departments and the government as a whole, it was never effectively linked with the budget process. This, in turn, made implementation of many strategic priorities impossible during a period of scarce fiscal resources.

In an attempt to restrain costs during the 1980s, the Government moved to centralize control over a number of government transactions. For example, Management Board, at various times, was required to approve personnel replacement, out-of-province travel, contracts, and equipment acquisitions even though funds had been approved in departmental budgets. While it was considered quite effective in curtailing costs, this form of transaction management took administrative control away from departments and often made it more difficult for departments to manage within the system. It also reduced departmental accountability. At the present time there is a move to make departments more responsible for their own administration and programs. The new role of Management Board will be focused on evaluation, co-ordination and delivery of programs.

In 1986 the Government appointed the Royal Commission on Health Care to examine ways to control health care costs. The Royal Commission Report was released in 1989 and identified some changes or policy re-direction that would ease health spending pressures over the long term. Early in 1991, the Province announced its strategy for dealing with the recommendations of the Royal Commission on Health Care.

In 1986 and 1991, the Province introduced early retirement programs designed to reduce the size of the Civil Service. While the 1986 program resulted in some reduction of permanent positions, the 1991 program dictates that departments must permanently remove the equivalent number of early retirement positions from their budgets.

More recently the Government has undertaken some more specific cost containment initiatives. Presently, several departments are being amalgamated to achieve lower administrative costs and rationalize program and service delivery. In addition, there is to be a reduction in the number of Boards and Commissions and a streamlining of their administrative operations.

The 1991 provincial Budget imposed a two year wage freeze on all public sector groups including hospitals, school boards and Crown

agencies. As well the Budget contained some program specific restraint measures such as an increase in co-pay provisions for the seniors Pharmacare Program, reduction in age eligibility limit for the Childrens Dental Program and greater restrictions on many seniors assistance programs.

The changing composition of provincial spending over the past ten years, however, gives an indication of where overall program restraint has been concentrated. Over this period spending on the areas of health, education and social services has increased from approximately 58 per cent of total program spending in 1981-82 to more than 72 per cent in 1991-92. On the other hand, spending on economic development and other government operations has fallen from 41.3 per cent of program spending in 1981-82 to 25.8 per cent this year.

This reflects primarily the difficulty all provinces have had in controlling costs in the essential areas of health, education and social services.

5.3.3.3 Budget Processes

The Province of Nova Scotia is in the process of changing its planning and budgeting system. A three-year integrated planning and budgeting process is proposed for preparation of the 1992-93 budget. It is intended that this system will provide the flexibility to plan and implement major structural program changes that are extremely difficult to achieve with a one year planning and budgeting system. The 1991 Budget referred to broad spending targets for the next two fiscal years which is intended to give departments and agencies funded by government an indication of the restricted resources that would be available over the medium term.

This was the first time such longer term targets have been announced with the intention of affording departments and agencies the opportunities to plan for changes that may be required to live within constrained fiscal resources.

5.3.4 New Brunswick

5.3.4.1 Overall Strategy

The New Brunswick Government's fiscal plan over the period 1988-89 to 1990-91 kept growth in ordinary spending within the overall growth rate in the Province's economy. The other element in the plan was to hold annual capital spending at $300 million.

The restraint measures have focused on:

- Cut backs to administrative overhead.
- Rationalization of program delivery.
- Reduced spending on areas of lower priority.

5.3.4.2 Implementation of Spending Restraint

One of the most significant initiatives implemented in the 1980s has been a wage freeze first introduced in 1984-85 and renewed in 1991-92. All categories of public servants were covered by the recent freeze including those in crown corporations and municipalities. In 1991-92, the salaries of the Premier, Cabinet Ministers and MLA's were also frozen, retroactive to January 1, 1991.

Among other general cost containment measures, the government reduced the number of positions by 225 units from normal staff turnover in 1991-92. General administration reductions were also considered at various times throughout the 1980's.

In specific areas, several initiatives have been implemented to rationalize the utilization of resources. This concerned mainly human resources in education, health care services, and several aspects of income assistance.

5.3.4.3 Budget Processes

The Cabinet Budget Committee makes recommendations on the size and structure of the budget to the Executive Council. The process itself is a year round activity. It starts after the completion of one budget with an outlook for the next three years based on an estimate of the

current service level, i.e., a spending estimate of current programs, and an in depth analysis of the options as they relate not only to spending, but to borrowing, the deficit and the level of taxation. From this analysis the various strategies are formulated. Once the Government has decided on the budget strategy instructions are sent to departments, including the spending targets, and the Cabinet Budget Committee starts to meet with the departments in the fall. The Capital Budget is tabled in the fall previous to the fiscal year of that budget.

5.3.5 Québec

5.3.5.1 General Strategy

The 1981-1982 recession underscored the need to correct the spending growth trend. During the 1970s, spending had grown faster than GDP and the government's ability to pay. This growth was reflected in a significant increase in the cost of services, notably wages, and a generally generous supply of public services compared to other jurisdictions.

After the 1982 recession, expenditure management featured a wage policy designed to make public sector remuneration comparable to that in the private sector, as well as cuts in resources allocated for the renewal of existing programs.

Following the release of the budget document "The Need for Immediate Action" in March 1986, the Québec government implemented a policy to improve public finances. The policy's primary objectives were to reduce the budgetary deficit and improve the competitiveness of Québec's tax system. The strategy for reaching these objectives was based essentially on limited spending growth to be achieved by:

- aligning overall public sector remuneration on that of the private sector;
- rigorous program management to meet spending objectives;
- developing new and existing program activities by reallocating available budgetary resources;
- horizontal spending cuts affecting mainly staff levels and operating costs.

In view of the structural growth in spending and the increasingly low yield from management measures applied up to that point, the Québec government, in its 1990-91 Budget Speech, concluded that a more global approach was necessary to stabilize spending growth. This approach was aimed at three broad objectives:

- improving management effectiveness with a view to productivity gains;
- redefining areas of public sector intervention by reviewing government activities;
- finding new sources of financing through greater decentralization of certain government responsibilities.

In retrospect, the initiatives taken since the early 1980s to reduce spending have relied on one or more of the following:

- pay policy;
- controlling the size of the public service;
- under-indexation of resources allocated;
- reviewing programs;
- charging for services and decentralizing sources of financing;
- privatizing chronically money-losing public enterprises.

5.3.5.2 Wage Policy

By the end of the 1970s, the Québec government noted that public sector wage levels were significantly higher than in the private sector and it decided to adopt a pay policy based on comparability of overall public sector remuneration with that prevailing on the private market in Québec. The wage increases negotiated in the collective agreements for 1979 to 1982 reduced the difference from 16.3 per cent in 1978 to 14.8 per cent in 1981. Also, in 1981 the government altered its participation in the retirement plans by reducing pension indexation and establishing a 50-50 share of retirement plan contributions.

After the 1982 recession, the government was constrained to reopen the collective agreements and roll back the increases that had been agreed to. Subsequently, working conditions were determined by order in council below the levels reached in 1982 and the average wage increase for 1984-1985 was limited to "CPI - 1.5 per cent". In addition, teachers' work loads were increased by changing the average class size. This substantial adjustment reduced the overall pay gap with the private sector to about 2 per cent.

From 1986 to 1990, public and parapublic sector wages rose at close to the same rate as the cost of living, subject to adjustments to pay scales to correct inequities among various employment groups, especially in predominantly female groups.

In the spring of 1991, the Québec government and its employees reached an agreement calling for a wage freeze during the first six months of 1992, followed by a 3 per cent increase. In view of the impact on public finances of the unfavourable economic situation in 1991, the government proposed in February 1992 that the 3 per cent increase be spread over a longer period of time.

The remuneration of health professionals is determined by agreements that fix the increase in the overall monetary package as well as certain remuneration details. Fee increases generally follow the pay policy negotiated with public and parapublic employees. In addition, special mechanisms have been implemented to limit funding increases:

- A system of fee objectives: the fee objective corresponds to an average annual income. It is negotiated and is used as a basis for establishing fees for medical acts. If the fee objective is exceeded, the amount of the overrun is in principle recovered from fee increases granted for the following period;

- Caps: general practitioners are remunerated according to the fees stipulated in the agreement only if their income is less than a cap determined for a given quarter. A cap does not apply for specialists.

It should also be noted that the Québec government controls the number of physicians by authorizing the number of admissions to faculties of medicine as well as the number of internships in hospital centres.

5.3.5.3 Controlling Government Staff Levels

Since the early 1980s, annual rationalization measures have almost always included reductions in the government staff level of 1 per cent to 2 per cent per year. Positions eliminated have subsequently been reallocated for the implementation of new priorities. On the whole, the staff level employed has remained basically stable.

In its estimates for 1992-93, the government announced that most departments and agencies would have to reduce their staff level by 10 per cent over the next five years. Only essential services and priority programs would be exempted from this measure.

In 1990-91, a new method of accounting for and controlling government staff levels has been put in place. The total authorized staff level for each department is expressed in full-time equivalents (FTEs) and includes both regular and casual employees.

5.3.5.4 Under-Indexation of Allocated Resources

Operating expenditures, excluding wages and interest, account for about 20 per cent of the expenditure budget. These expenditures include mainly departmental operating costs and grants paid for the operations of the education, higher education, and health and social services networks.

Since the early 1980s, departmental operating expenditures have frequently been indexed only partially or not at all, except for programs or services that cannot be cut back. Since 1985-86 more specifically, these expenditures have been frozen. This has also been the case some years in the elementary, secondary and college education networks.

Under-indexation of resources was also tried in the health and social services network during the first half of the 1980s. However, it was abandoned when the government was required in 1982-83 and in 1986-87 to absorb the deficits of health and social services establishments. Since 1986, the budget for health and social services establishments has been raised by 1 per cent a year to enable them to deal with the additional costs caused by the aging population and developments in medical technology. In this way, hospitals have been able to balance their budgets and, where required, take the steps required to reduce accumulated deficits.

5.3.5.5 Program Review

Over the past ten years, various methods have been used to review existing programs. Initially, small units were formed within the Secrétariat du Conseil du trésor to assess the main programs and make recommendations to the government. Subsequently, government departments were requested, when preparing their budgetary forecasts, to list the activities they considered of lesser priority. In 1986, a "Groupe de travail sur la révision des fonctions et organisations gouvernementales", presided by the Chairman of the Conseil du trésor and consisting mainly of representatives from the business world, submitted a set of proposals to the government on the management of government programs. In recent years, various task forces have been formed to review government activities. The task forces, composed either of ministers or senior public servants, worked with government departments to carry out their mandate.

The work done by these various task forces has led to the elimination of only a few activities, and those have been fairly marginal. However, the standards of many major government programs have been substantially tightened.

- Income security programs have been changed to provide additional incentive to work. Recipients who are fit for work must agree to participate in employability programs, or their allowances are reduced.

- The college and university student loans and grants program was revised and harmonized with the rules applicable under the tax and income security systems. The number of semesters during which a student can receive financial assistance has been limited, and university graduate students who complete their studies in a reasonable length of time are granted a debt forgiveness.

- The business financial assistance programs administered by the Société de développement industriel (SDI) have been completely overhauled: grants and interest-free loans have been replaced with equity type loans at market rates. The activities of two other financing agencies, the Société de développement coopératif and the Agence québécoise de valorisation industrielle have been included with those of the SDI.

- The focus of farm assistance programs has been shifted to emphasize investment assistance rather than operating assistance. Assistance scales have been significantly reduced.

In 1989, the Conseil du trésor issued an instruction framing the program analysis and internal audit mechanisms departments must implement to obtain and make available the management information needed to make decisions on program activities.

5.3.5.6 Charging for Services and Decentralization of Sources of Financing

Since 1986, the Québec government has taken steps to improve the self-financing of programs in which commercial activities play a significant part. In particular, these measures deal with:

- Revision of fees and introduction of clauses on the indexation of costs for services provided by departments and budgetary agencies (e.g., issuing licenses and permits).

- Creation of certain Crown corporations to administer commercial activities. The Société des établissements de plein air du Québec (SÉPAQ) is responsible for park management, including the Mont Sainte-Anne ski resort; the Institut de tourisme et d'hôtellerie du Québec (ITHQ) has been incorporated to improve the efficiency of its commercial operations.

- Special funds have been formed to supply goods and services for various departments (reprography, telecommunications, computer services, government air transport, etc.) or deliver various government services to outside customers (registration offices, cadastre, Publications du Québec, etc.).

In 1990-91, the government revised its participation in university funding. The moratorium on university tuition fees, which had been in effect since 1969, was lifted and the student financial assistance plan thoroughly revised, as was the method used to calculate government grants to universities. This has succeeded in correcting the problem of university under-funding while maintaining access to university education and limiting the growth in government assistance for university operations.

Also since 1990-91, government funding for the maintenance of school board facilities has been replaced by an expanded property tax collected locally by school boards. This change makes cost increases more visible, so that citizens have more direct control in this regard.

The reform of municipal financing which became effective in 1992 completes the 1980 reform by increasing the level of responsibilities of local bodies (municipalities, urban communities, public transit commissions) for financing activities already under their control. More specifically, it involves:

- Termination of municipal public transit service operating grants. These expenditures will have to be financed locally by fare increases or taxes collected locally by municipalities or regional transit authorities.

- A requirement for municipalities that do not have a police force to pay a fee to the Québec government in return for services received from the Sûreté du Québec. This fee depends on the size of the population.

5.3.5.7 Privatization and Rationalization of Activities of Chronically Money-Losing Public Enterprises

In 1986, the Québec government created a task force on privatization under the authority of a minister responsible for privatization. Following the report of this task force, a number of privatizations were carried out to reduce the financial burden on the government. The main enterprises privatized were: Québécair, Madeli[illegible]êches, Raffinerie de sucre du Québec, and some subsidiaries of the Société nationale d'amiante. Moreover, SIDBEC-NORMINES ceased its mining and pelletization operations in December 1984.

5.3.6 Ontario

5.3.6.1 Overall Strategy

Ontario's cost effectiveness strategies have changed significantly over the last fifteen years. The focus has evolved from simple constraint goals, such as reducing the size of the civil service and keeping spending growth below the rate of inflation to a broader spending management and effectiveness strategy. Strategies now include redirecting spending towards key priorities and restructuring service delivery for greater effectiveness and efficiency. Public consultation and the involvement of employees, transfer agencies, and clients are key to the success of this strategy.

During the early to mid-1980s, Ontario co-operated with the federal government in implementing joint restraint programs to fight continued inflationary pressures. Ontario also continued to concentrate on keeping spending growth below the rate of growth in the economy.

The latter part of the 1980s saw the Province adopt a more open approach to budget planning, with increased consultation and dialogue. Transfer payments to municipalities, universities, colleges, school boards, and hospitals were also announced in advance of the annual budget, to allow for better planning in those sectors.

The 1990s see a more comprehensive approach to spending management, with further involvement of direct stakeholders and public consultation. A key step was the creation of a Treasury Board in 1991.

Efficiencies are being sought through review, evaluation and redesign of existing programs, with the participation of the people who use the services and those who provide them. An integral part of this approach is maintaining delivery of necessary services in a fair and equitable manner.

5.3.6.2 Implementation of Spending Restraint

General Government

In the early 1980s, Ontario carried out its own "6 and 5" per cent inflation targets program to complement the federal initiatives. These targets applied to public sector wage increases and other government spending. Program reviews were initiated on more than one occasion, and a broad "activity review" requirement was created in 1985. Constraints on own-account spending were also applied annually throughout the late 1980s.

Constraints on own-account spending continue to be employed. A permanent 10 per cent reduction in the non-salary operating budgets of ministries will be achieved over an eighteen-month period to the end of 1992-93. Increasing attention is also being given to innovative compensation arrangements. An agreement has recently been negotiated with the Ontario Public Service Employees Union to moderate wage increases while enhancing employment security and other benefits.

Restructuring the way government operates has become increasingly important - major changes are needed to improve customer service and better utilize human resources. This will entail organizational

and procedural changes, empowerment of employees, and full and flexible use of existing resources. Involvement of employees, and their unions and associations, is critical to the success of these strategies.

Health Care

The focus of spending management in health care has also shifted from simple constraint to joint management with service providers. Restructuring and alternative delivery methods are also important.

Implementation of more community-based health and social services is expected to reduce the rate of growth in demand for chronic care hospital services and other institutional services. Long-term care reform is a good example. The shift from hospital and institutional care services to more community-based and at-home services will not only improve the quality of health care, but it will also meet growing demands by consumers for greater independence in their choice of health services.

Efficiencies also continue to be sought. In the 1990 Ontario Budget, the Treasurer announced that individual health service numbers and cards would be issued to all Ontarians. In conjunction with the implementation of a new computer system, this will promote better management, monitoring, and planning of health care.

In 1991, the Government, in partnership with the Ontario Hospital Association (OHA), provided a number of funding incentives to improve efficiencies in hospitals. The Government expects greater efficiency gains from hospitals in the future and will continue its current co-operative and consultative financing approach with the OHA. As well, the new Joint Management Committee established under the recent physicians' agreement has been directed to develop incentives for physicians for appropriate use of hospital services, including efficiency improvements.

The 1991 agreement between the Ontario Medical Association (OMA) and the Government of Ontario on fee-for-service billings, reflects a determined effort to bring uncontrolled health costs into check. Physicians have agreed to help the Government achieve more value for health care spending in Ontario by agreeing to help achieve the appropriate number, mix and distribution of physicians based upon Ontario's needs.

The Government is enacting a series of modifications to the current OHIP policy to ensure that payments for out-of-country health services reflect the cost of services in Ontario.

The Government will also implement tighter controls on reimbursement for drugs, establish more comprehensive guidelines for prescribing drugs, and require more objective evaluations in order for a new drug to gain coverage.

It is estimated that the 1991-92 savings from these health-related spending control measures, announced in the 1991 Budget, will total $260 million and increase to $570 million by 1993-94.

Social Services

In 1987, the Government approved a 25-year plan for the development of a community-based delivery system and for the phasing out of institutional care facilities. Within the context of this long-range de-institutionalization plan, the Government also approved a seven-year plan which enhances opportunities for the developmentally disabled to participate more fully in society.

5.3.6.3 Budget Processes and Rules

Changes in the 1980s

In the Budget of October 1985, an ongoing government activity review was announced. This initiative was intended to increase awareness of the need to carry out program evaluation on an on-going basis. Program review was not to be seen as part of constraint, but as a means of rationalizing resource allocation and setting priorities. Attention was directed to the relevance of program mandates and the effectiveness of programs in meeting them.

The 1986 Budget announced the implementation of a more comprehensive approach to capital spending planning. Management Board of Cabinet would now co-ordinate Ontario's capital and other investment plans. Each ministry would submit a multi-year capital plan identifying future needs and report on the impact of new capital spending on operating costs.

The Government increased its consultation efforts in the late 1980s by:

- establishing the Standing Committee on Finance and Economic Affairs in 1986, in part to undertake pre-Budget consultations;

- increasing the number of opportunities for personal representations to the Treasurer; and

- publishing an "Economic Outlook and Fiscal Review" in advance of these consultations to provide a basis for discussions.

In addition, the Government initiated the announcement of major transfer payments to municipalities, universities, colleges, school boards and hospitals in advance of the annual budget. This new approach allowed major transfer recipients to better plan their own budgets by indicating the Government's intentions five to six months in advance of the Provincial Budget.

Recent Developments

In the 1991 Budget, the Treasurer announced the creation of a Treasury Board, with a mandate that includes program evaluation and review. The new budget process will facilitate program review and redesign, to ensure that government resources are allocated as efficiently as possible. The new Treasury Board also integrates spending planning and control functions.

Consultations on the 1992 provincial Budget began with publication of an Economic Outlook paper in December, 1991. In January, the Premier made an address on Ontario's economy, and the Treasurer issued a detailed Fiscal Outlook document. Broad public input is being sought on the fiscal challenges and options available to the government. A series of round table discussions are being held, each bringing together representatives from a range of interests to discuss a key issue area.

Several major steps have already been taken to manage 1992 spending. Salaries for senior government officials and heads of agencies have been frozen, and an agreement negotiated with the Ontario Public Service Employees Union to limit wage increases to 1 per cent for 1992 and 2 per cent for 1993.

Discussions are also being held with the major transfer sectors on restructuring opportunities which will allow them to manage within a 1 per cent increase in transfers in 1992, and 2 per cent in each of the following two years. Significant innovations in collective bargaining and service delivery are expected to result.

In the 1991 Budget, the Government set out a four year fiscal forecast to demonstrate its commitment to a medium term fiscal restraint plan. The Budget set deficit targets of $9.7 billion in 1991-92, $8.9 billion in 1992-93, $8.4 billion in 1993-94 and $7.8 billion in 1994-95. Ministry budgets are now being developed in detail on a multi-year basis.

The establishment of a capital budget was also announced in the 1991 Budget, to help focus on the strategic planning of capital spending. Changes have also been made in the review process for ministry base budgets and estimates.

5.3.6.4 Conclusion

Over the past decade, spending in the areas of health care, social services and education allowed for enhanced levels of quality and service to meet the growing needs of Ontario residents. This was made possible partly by the resources available from strong economic growth in the mid-1980s, but also by spending management strategies which allowed for spending shifts as the composition and priorities of Ontario's population shifted.

The fiscal pressures arising from social and economic change continue to demand further efforts to enhance the efficiency and effectiveness of all publicly funded services and programs. Rethinking, restructuring, and efficient use of resources will still be required in order to continue effective service delivery.

5.3.7 Manitoba

5.3.7.1 Overall Strategy

With its first budget in 1988, the current Manitoba administration committed itself to improving the Province's fiscal management. Comprehensive programs for cost containment have been a central feature of each subsequent budget. While there has been, and continues to be, a commitment to maintaining all essential public programs, budget decision-making has emphasized:

- Efficiency.

- Effectiveness (directing program spending to areas of greatest priority through eliminating or reducing lower priority programs and ensuring that existing programs are targeted effectively).

- Wage Restraint.

5.3.7.2 Implementation of Spending Restraint

- **Staffing Restraints**: In 1989-90, government departments were to maintain a 5 per cent vacancy rate. A staff freeze was implemented in 1990-91. In 1991-92 a limited staffing authority delegation was introduced, and the vacancy rate requirement was temporarily suspended. However, staffing requests required approval of Treasury Board and the freeze on staffing was instituted on December 1991. A voluntary separation program has also been announced. As noted above, about 5 per cent of positions had been eliminated through the setting of program priorities.

- **Public Sector Compensation**: In 1991-92 Bill 70 was passed to maintain public sector wage scales at their current level for one year. Bill 33 froze Manitoba's Government Assembly salaries and reduced allowances and expenses.

In addition to these three broad initiatives, numerous specific decisions were made to promote effective management and delivery, including:

- Stringent guidelines for grant increases.

- Some privatization.

- Program changes in health, education, social services and other areas.

- Introduction or increase of fees and charges.

5.3.7.3 Budget Processes

The 1991-92 Estimate Process focused decision-making on four broad sectors rather than on individual departments. Programs were categorized into one of three categories based on degree of priority:

- A - Fundamental to either the economic or social requirements of the Province.
- B - Priority programs that are criteria driven and can be altered to achieve a more cost effective outcome.
- C - All other programs.

Plans were developed for each sector, based on target spending levels, by committees made up of deputy ministers. Target spending levels were based on costed out Category A programs, 90 per cent of the previous year's adjusted vote for Category B and 59 per cent of the previous year's adjusted vote for Category C. Funding levels could be shifted up (i.e. Category B to Category A) but not down. The plans were developed by Deputy Ministers and then presented to ministerial committees, also grouped by sector, and then to Treasury Board for review and final approval by Cabinet.

5.3.8 Saskatchewan

5.3.8.1 Overall Strategy

In the early 1980s Saskatchewan's fiscal management policy involved a balanced approach of containing existing program spending, without wide scale program deletions, while strengthening the Province's revenues without major taxation changes. Such a policy did not preclude the provision of new priority programs and spending.

The 1980s saw economic conditions that were less than ideal. Poor economic conditions affected Government revenues and with Saskatchewan's fiscal management policy focusing on the protection of the priority areas of health, education and agriculture, deficit financing became a requirement.

In 1987 a fiscal plan was set out which established targets designed to eliminate deficit financing by 1990-91. This plan, combined with yearly spending reduction initiatives and strengthening of the

Province's revenue base, was not enough to meet the target of a balanced budget by 1990-91. Unforeseeable circumstances, including rising interest rates, the prolonged drought and record levels of forest fires, delayed achievement of the balanced budget. However, the Budget for 1990-91 did see a downward movement in the deficit.

The 1991-92 Saskatchewan budget was tabled on April 22, 1991. It was a restrictive budget aiming at eliminating the deficit and reducing the public debt. A deficit of $265 million was forecast.

On November 1, 1991 a new provincial administration was established. Following a preliminary examination of the books, the new administration announced a revised deficit of $888.3 million on November 13. In December of 1991, after further review of the financial position of the Province, the 1991-92 Financial Report was tabled, forecasting a deficit level of $851.7 million for 1991-92.

5.3.8.2 Implementation of spending Restraint

Over the years the government's fiscal management policy has focused on the following areas of spending management:

Wage restraint

- Public sector wage increases in Saskatchewan have been below those in the private sector since 1983.
- In recent years, increases for Saskatchewan public employees have been the lowest in Canada.

Controlling the size of the civil service

- Saskatchewan's civil service has been reduced by over 2600 people, 19 per cent since 1982-83.

Internal efficiencies

- In 4 out of the last 5 years, internal government operating costs have been reduced.

- In 1987, 9 departments were streamlined and amalgamated to reduce administrative costs.
- In 1990, four economic development departments were amalgamated into a single department.
- In January, 1991, seven government departments and agencies were eliminated and a new one was created.
- Restrictions are currently in place for all purchases, travel and hiring.

Containment of non-priority areas

- 1991-92 - Budgets reduced or frozen for 14 departments and agencies, of these 7 reduced by 10 per cent or more.
  - Operating grants for hospitals, special-care homes, schools, universities, SIAST and regional colleges increased by 3.5 per cent over last year.
- 1989 - 0 per cent increase or reduction in 12 government department budgets.
- 1986 - Spending increases limited to 1.6 per cent for government spending, except for health, agriculture and education.
- 1985 - Three-quarters of the departments and agencies held at or below previous year's level.
- 1984 - 26 of 37 departments and agencies held at or below previous year's level.

Elimination of programs and initiatives which have met their initial objectives and rationalization of priority programming

- 1991 - Prescription Drug Plan co-payment increased from 20 per cent to 25 per cent.
- 1990 - Cancelation of the HOME Improvement Program, reduction of the Municipal Capital Program, elimination of the Fuel Tax Rebate Program and

reduction in the interest subsidy available under the Mortgage Protection Plan.

- 1987 - 104 programs terminated and 72 programs significantly downsized.

5.3.8.3 Budget Processes

Saskatchewan's budget process begins with the setting of priorities and objectives by Cabinet. Treasury Board, a Committee of Cabinet, determines specific guidelines, and cost-containment directives for each department, based on these priorities and objectives. Departments are then asked to submit a budget based on their guidelines and to provide a list of additional cost-containment options.

Departmental budgets are reviewed and analyzed by the Department of Finance and recommendations for Treasury Board review are prepared. Ministers and senior department officials are brought before Treasury Board to justify their budget requests. This review process occurs a number of times before Treasury Board satisfaction is achieved and Board approval is received.

This process results in Treasury Board recommendations for departmental base budgets. Any new spending requests must go through a separate approval process. In some cases it is decided by Treasury Board that any new spending request must be accompanied with a proposal to pay for the request out of the department's current budget.

Cabinet Budget Finalization is the final step in the budget approval process. After extensive review and analysis of departmental budgets by Finance and Treasury Board, Cabinet reviews Treasury Board's recommendations and makes the final decision on program spending and revenue enhancements before the preparation of the Estimates for the year in questions occurs.

5.3.9 Alberta

There was a marked deterioration in Alberta's fiscal position during the 1980s.

Large deficits were incurred in the early 1980s as a result of the international recession and the National Energy Program. In response, the government transferred investment income from the Alberta Heritage

Savings Trust Fund to the General Revenue Fund (GRF), increased the percentage of resource revenue that remained in the GRF, and reduced program spending. These actions brought the GRF into a surplus position by 1984-85 but also significantly reduced the revenue flexibility of the government.

In 1986-87, the government was again faced with serious financial problems. A major drop in oil prices caused gross revenue to decline by nearly 25 per cent. Also, revenue was not expected to recover significantly over the medium term. Government spending was at a level that could no longer be supported with the current revenue base. In 1986-87 revenue covered only two-thirds of spending.

5.3.9.1 Overall Strategy

The government reacted to this situation by tightly controlling spending through a top-down budget process. Since 1985-86, the average annual increase in gross program spending has been only 1.6 per cent. Spending on the priority areas of health, education and social services was allowed to increase, but at lower rates than in the rest of Canada. Most other program spending was cut back. Significant tax increases were also implemented in 1987. However, overall taxes remained the lowest in Canada.

In 1987-88, the province introduced a plan to balance the budget by 1990-91, later extended to 1991-92. The fiscal plan required that:

- Resources be focused on key priorities.
- Core services be reassessed to ensure that they were meeting the needs of Albertans.
- Program cost reviews be carried out to identify spending programs and tax incentives which could be reduced or eliminated.
- Strict controls be maintained on internal government operations.
- Taxes be increased only when absolutely necessary.

5.3.9.2 Implementation of Spending Restraint

The province tightly controlled spending in the core functional areas of health, education, and social services. Basic operating grants to hospitals and educational institutions were cut by 3 per cent in 1987 and then limited to modest increases, at or below the rate of inflation. In other program areas, the government implemented a more severe restraint program including actual cuts in spending. Some economic development and employment programs were exempted from the spending restraint program in the initial years to provide a stimulus for job creation and economic diversification.

Internal government operations were a first target of spending cuts. Program delivery was restructured to eliminate overlap and streamline administration. The government limited salary increases to less than inflation. The province also forced greater operational efficiencies by only partially compensating departments for approved increases in salaries. This resulted in greater productivity and a smaller civil service. Close to 3,500 positions have been eliminated since 1985-86. The Alberta civil service is smaller today than it was in 1978-79.

Spending restraint included both the reduction of program budgets and the complete elimination of some programs. Departments were allowed a fair degree of latitude in determining how to allocate their resources.

5.3.9.3 Budget Processes

Spending control was implemented by a top-down process. Early in the budget cycle, Treasury Board would set overall spending parameters based on expected government revenue for the year and the targeted deficit. Individual spending targets were also set for each department, depending upon the priority placed on the departments' programs. Departments were then required to submit detailed spending plans to achieve their targets.

Treasury Board would review individual budget proposals, focusing its attention on evaluating the need for any proposed increases for individual programs and the effects of proposed reductions. Departments were often required to re-submit their proposed spending plan after making changes directed by Treasury Board in the first review. Some variations from the targets were allowed for individual department budgets but overall government spending was expected to match the planned target.

5.3.9.4 Results

Since 1985-86, total program spending in Alberta has increased by an average of 1.6 per cent per year. During the same period, program spending in other provinces increased by an annual average of over 7 per cent.

Spending on Alberta's main priorities of health, education and social services increased by an average of 5 per cent per year. This was considerably lower than the over 8 per cent average increase in other provinces. Alberta substantially cut other program spending. In 1991-92 other program spending will be over 17 per cent lower than it was in 1985-86. In other provinces, spending on other programs has increased by 45 per cent from 1985-86 levels.

During the period 1985-86 to 1991-92, Alberta's revenue growth was the weakest of all provinces. This was largely due to a $2 billion decline in natural resource revenue. This has resulted in a decline in overall revenue of approximately 10 per cent in real terms. Despite weak revenue growth, the province's spending control program has allowed the government to limit tax and revenue increases.

5.3.10 British Columbia

5.3.10.1 Overall Strategy

Over the period 1981-1991, the provincial government's strategy to control spending was to use "top-down" budget and public sector wage controls, accompanied by funding and institutional reforms in individual program areas.

- A number of fiscal controls were introduced to restrain spending growth in the early 1980s and to attempt to stabilize government spending over the economic cycle in the late 1980s and early 1990s.
- Legislation was used to introduce guidelines and controls on the growth of wages and other forms of public sector compensation.
- A block funding system was introduced for education in an attempt to improve accountability for school taxation and some institutional changes were used to control health care costs.

Further details are provided in the following sections along with some discussion of the results of these efforts.

5.3.10.2 Implementation of Spending Restraint

Fiscal controls adopted by the government of British Columbia over the period 1981-1991 had two primary objectives: (i) to control the growth in government spending and (ii) to stabilize government spending over the economic cycle.

In response to declining revenues during the recession of the early 1980s, the British Columbia government maintained a program of budget restraint from 1982 to 1987. The Restraint Program included strict limits on overall ministry spending, staff reduction plans, privatization programs and public sector wage controls.

Over this period the rate of growth in provincial spending declined sharply, but the province still ran a deficit because of relatively weak revenue growth.

Wage Guidelines/Controls

Legislated public sector wage guidelines and controls were utilized twice over the past decade. The Compensation Stabilization Program (CSP) was in effect from 1982-88 and the Compensation Fairness Program (CFP) was initiated in 1991.

Compensation Stabilization Program: 1982-88

In February 1982, the Government of British Columbia adopted the Compensation Stabilization Program (CSP). The program was an element of the government's restraint program, implemented in response to declining revenues. It was designed to limit public sector compensation increases, while preserving the collective bargaining process.

The *Compensation Stabilization Act, 1982*, gave the provincial government the authority to establish voluntary guidelines and mandatory regulations to restrain wages and benefits in the public sector.

The range of annual allowable increases under the Compensation Stabilization Program was originally set at eight to 14 per cent of total compensation (including both base salaries and benefits,

but excluding merit increments). The high level of permissible settlements reflected the double-digit rates of inflation at the time.

In response to continued economic weakness and falling private sector wage settlements, the compensation guidelines were reduced in July, 1982, to a range of zero to 10 per cent for the first year of a contract and zero to nine per cent for the second year. These guidelines incorporated adjustment factors for experience, productivity and special circumstances.

In October 1983, the guidelines were amended to extend the program for an indefinite period and to reduce the range of annual allowable increases, reflecting the change in economic circumstances. The new guidelines provided for a range of between -5 and +5 per cent. The program was phased out over the 12 months ending September 30, 1988.

Compensation Fairness Program: 1991

The *Compensation Fairness Act*, introduced in early 1991, authorized the establishment of a program to review all public sector compensation plans completed after January 29, 1991. Similar to the earlier CSP, the main purpose of the Compensation Fairness Program was to ensure that wage increases in the public sector did not exceed those in the private sector. The program regulations empowered the Commissioner to reject proposed settlements that exceeded program guidelines.

In November, 1991, the new government amended the guidelines and cancelled the regulations. These changes were designed to restore the free collective bargaining process in the public sector and to increase the accountability of public sector employers for negotiating fair and affordable collective agreements.

Education

The responsibility for managing the public school system is shared by the provincial government and locally-elected school boards. Prior to 1990, public schools operations were funded based on a calculation of the amount the government considered necessary to provide a sound basic education to each enroled student, called the "shareable operating amount". This amount was funded through a combination of provincial transfers to local school boards and residential school property taxes paid directly to school boards.

Under this system, school boards made the final decision on the total amount to be spent on schools in their district. If boards set budgets higher than the shareable operating amount for the district, they simply raised whatever supplementary funding they required through additional residential school property taxes.

In the 1990 Budget, the Government of British Columbia instituted a block funding system for public schools to address concerns that:

- there was a growing inequity in total funding levels among districts due to supplementary spending decisions;
- increases in the shareable operating budget approved by the provincial government were outstripped by increases approved by boards;
- there was inadequate disclosure of the total cost of public education since the residential school property tax contribution was not shown in the provincial government's annual Estimates or Public Accounts; and
- residential school property taxes were growing too fast and unpredictably, and accountability for those levels was not clear.

Under this block funding system, the government provides an overall block of funds which is calculated by multiplying "full time equivalent" enrolment by the average per pupil amount set by government each year. The base block, which was equivalent to the shareable operating amount plus all of the supplementary taxation levied by school boards in the year prior to the implementation of block funding, is adjusted annually for enrolment change, changes in mandate and economic factors. It is distributed by the Minister of Education according to differences in individual characteristics of school districts such as size, remoteness, and different requirements of students in the system based on such factors as grade levels and special needs. The block is paid for entirely out of provincial government revenues, which now include residential school property taxes.

In the event that school boards wish to obtain additional funds, they must first receive the approval of local taxpayers through a referendum. The purpose of this change was to increase the accountability of school boards for spending in excess of the provincial block contribution.

Health Care

Like other Canadian provinces, British Columbia has faced rapidly-rising health care costs. However, British Columbia has faced two special problems:

- The number of physicians per capita is about 30 per cent above the national average.

- The fee schedule for physicians' services is also considerably above the national average.

Consequently, per capita provincial spending on health care is above the national average.

Recognizing that physicians are the primary "gateway" to the health care system, the British Columbia government made various efforts to control billings by doctors:

- In May 1985, the government announced restrictions on the number of billing numbers distributed to medical practitioners (without a billing number, a physician would not receive payment from the province for services delivered). This had the effect of preventing immigrants and recent graduates of Canadian medical schools from obtaining billing numbers. The restriction on billing numbers was subsequently made inoperative by a ruling by the Supreme Court of Canada in August 1988.

- A global cap on billings by physicians was negotiated as part of the three-year agreement with the British Columbia Medical Association (BCMA) covering the 1986-87 to 1988-89 period. Global "over-billing" by physicians in excess of the cap was to be recovered through reductions in the subsequent fee schedule negotiated with the British Columbia Medical Association. Some allowance was made for increases in "utilization" (per capita spending on physicians' services).

- Under the current contract, the cost of increased utilization is shared: the province pays for the first seven-eighths per cent increase; the BCMA the next one-eighth per cent; any utilization increase in excess of one per cent is shared 50/50 between the government and the BCMA.

The restriction on billing numbers, and the cap were effective in controlling utilization of physicians' services from 1986-87 to 1988-89.

Utilization began to increase following the Supreme Court decision, as physicians without billing numbers were able to set up practices.

Recognizing the complexity of the health care costs issue and the multitude of interests and participants in the health care system, the government appointed a Royal Commission on Health Care and Costs in 1989. The Commission released its report in November, 1991.

5.3.10.3 Budget Processes

In the 1988 Budget, the government created the Budget Stabilization Fund with the objective of stabilizing reported budgetary revenues, and avoiding the need to reduce future spending when revenues and the economy were weak.

Over the three years following the creation of the Budget Stabilization Fund, the rate of spending growth increased steadily from 4.0 per cent in 1987-88, when the fund was created, to 13.7 per cent in 1990-91. Growth in spending exceeded growth in revenues beginning in 1989-90, in spite of a strong economy and additional revenue increases. The Budget Stabilization Fund was maintained until the 1991 Budget when the Fund was dissolved.

In 1991, the British Columbia government adopted the Taxpayer Protection Act. This legislation required the Minister of Finance to table a Balanced Budget Plan annually that adheres to the following rules:

- The General Fund budget must be balanced over the five years covered by the plan.

- Annual spending growth cannot exceed the average annual growth in provincial gross domestic product over the most recent five years, ending with the current year.

The Balanced Budget Plan was predicated on revenue increasing as a constant proportion of GDP. However, over the past decade, this ratio has remained constant only because of significant tax increases. This happened, in part, because of declining growth in federal transfer increases. Hence, the achievement of the revenue track in the Balanced Budget Plan implicitly requires additional tax increases. As well, how the rigorous spending requirements outlined in the plan would be met was not specifically identified when the legislation was passed.

The new government is currently reviewing the state of provincial finances.

5.3.11 Yukon

5.3.11.1 Overall Strategy

Since 1985-86, when Yukon entered into its first formula-based financing arrangement with Canada, the growth of territorial spending has been subject to externally and internally-imposed controls.

The funding formula has an escalator which limits growth in the spending base to the growth rate in provincial-local government spending across the country. The escalator itself is subject to a ceiling equivalent to the growth rate in the national GDP. The limited capacity of the territory's own revenue base further limits its ability to increase spending beyond levels projected by the escalator-ceiling.

The overall strategy of the Territorial Government since 1985-86 has been to establish targets for spending functions and/or program departments limiting overall spending to the total resources available and thereby balancing the budget. For most fiscal years, this required the delivery of government services in a more efficient and effective manner and the reallocation of existing resources to address new needs.

5.3.11.2 Implementation of Spending Restraint

Specific spending restraining policy measures introduced by the territorial government include:

- Provision of zero per cent growth for the salaries and wages component of departmental budgets in 1987-88.
- Restricting the growth of salary adjustments in 1988-89 and 1989-90 to below the rates of inflation for Canada.
- Restricting the growth of the non-wage component of departmental budgets to below the rates of inflation for Canada for fiscal years since 1987-88.
- Imposition of a freeze in 1988-89 on certain spending objects, viz travel, contract services and communications.

The imposition of the foregoing measures enabled the Government of the Yukon to present the following budgetary scenario:

1987-88	Operations and Maintenance budget growth rate (3.3 per cent) kept to below the annual rate of inflation and projected growth rate of Yukon economy.
1989-90	Combined Operating and Capital budget growth rate kept at 1.5 per cent over forecast 1988-89 levels.
1990-91	Combined operating and capital spending budgeted for 1990-91 represented a decrease of 2.7 per cent from the forecast estimates for 1989-90.
1991-92	Combined operating and capital spending budgeted represented a decrease of 3.9 per cent over the forecast estimates for 1990-91.

With the expiry of the first five year formula funding arrangement in 1989-90, the federal government introduced changes to the formula to reflect federal deficit reduction objectives. The net effect of the changes for the current formula period, 1990-91 to 1994-95, is to reduce federal transfers to the Yukon by about $50-$60 million. The federal transfer payment is estimated to decline from 61.7 per cent of the Territorial Budgetary Income in fiscal year 1985-86 to 57.2 per cent in 1991-92 as outlined in Table 5.2:

Table 5.2
Federal Transfers as a Percentage of Budgetary Income
(per cent)

1985-86	61.7
1986-87	60.3
1987-88	60.3
1988-89	58.9
1989-90	58.4
1990-91	56.7
1991-92	57.2

Other cost restraining measures already introduced by the Territorial Government to address the new fiscal reality include:

- The initiation of pre-budget consultations with interest groups and non-government organizations to identify trade-offs and offsets.

- Imposition of limits to the number of doctors on whose behalf premiums are paid towards malpractice insurance. The practice of payment towards malpractice insurance was initiated as an offset to fee increases.

- Introduction of a new Home Care Program to provide for the integrated delivery of such services as home nursing, medical and social work, and occupational therapy for those in need of assistance. This has the potential of reducing expensive institutional care, while allowing people to continue living in their own communities and in their own homes.

- Introduction in 1991-92 of a planned preventative maintenance program to reduce building maintenance problems, control costs over the long term and to provide for more efficient use of resources.

5.3.12 Northwest Territories

5.3.12.1 Overall Strategy

The Government of the Northwest Territories has had full and independent control over its financial management and fiscal policies only since 1985. Its experience in the implementation of independent cost control measures is therefore more limited than that of the federal and provincial governments. Prior to 1985, the Government of the Northwest Territories negotiated its budget annually with the Department of Indian Affairs and Northern Development. Consequently, the Government's budget largely reflected the cost control policies of the federal government. Limited opportunity existed to implement policies which reflected the particular circumstances of the Northwest Territories.

In 1985, Canada and the Northwest Territories entered into a Formula Financing Agreement which gave the territorial government full responsibility in all matters relating to financial management and budgetary allocation. Within a year of entering into the Agreement the Government of the Northwest Territories introduced a number of major initiatives to improve the efficiency, economy and effectiveness of government operations.

The introduction of a new Formula Financing Agreement in 1990, which has resulted in considerably lower revenue growth for the Government of the Northwest Territories, combined with growing spending pressures, has magnified the need for such initiatives.

In general, the objective of the cost-containment measures introduced by the Government of the Northwest Territories has been one of increasing the overall cost-effectiveness of government spending. Rather than making ad hoc cuts to programs, or sweeping government-wide reductions in budgets or staffing levels, the government's usual focus has been on increasing managerial efficiency and reducing spending after in-depth review.

In 1991, the Government implemented the second phase of its spending management plan, the Project to Review the Operations and Structure of Northern Government, which had a mandate to look at more fundamental changes which would increase the cost-effectiveness of government spending.

5.3.12.2 Implementation of Spending Restraint

As already noted, the Project to Review the Structure and Operations of Northern Government was initiated in 1991. This Review Project has examined the costs of existing programs and the efficiency, economy and effectiveness of government operations and programs, in light of recent and potential constitutional developments in the Northwest Territories, including comprehensive land claims and the desire for greater community self-government.

The mandate of the review was to:

i) Identify opportunities for improved efficiencies and economies by restructuring existing program and service delivery and management structures.

ii) Identify means to better focus programs on core needs.

iii) Identify savings opportunities by changing eligibility criteria or benefit levels in order to improve targeting and results for dollars spent.

iv) Identify any ineffective programs or services.

In 1985-86, every department was required to implement a Managing For Results System (MFRS), designed to increase government efficiency and effectiveness. By clarifying, coordinating and quantifying departmental goals the MFRS would increase management's accountability

and focus on achieving results. Implementation of the MFRS has had varying degrees of effectiveness across departments.

The Government has recognized that sound financial management requires the commitment of all members of the organization, and that these members must have the knowledge and skills to effectively participate in the financial management of the organization. To this end, a revised management training program was introduced in 1986-87, focusing on financial management concepts and practices in the Government of the Northwest Territories.

A reduction in the growth of the public service has been a major priority.

In 1988-89, the government set and bettered a target of zero person-year growth (exclusive of program transfers from the federal government), and reduced growth in the public service to an average of under one per cent per year over the next three years.

In 1988-89, the Government restricted the funding allocated to compensate for inflationary cost increases. Departmental budgets were adjusted for inflation only after a price change had occurred, and only if the increase could be directly related back to a specific program. This approach eliminated the automatic incorporation of inflationary spending growth estimates in departments' budgets. Inflationary increases were budgeted for in a supplementary reserve. This measure resulted in major belt tightening across the government and helped to generate a management attitude of restraint.

In 1990-91, as part of the interim spending reduction measures implemented following the introduction of the new Formula Financing Agreement, the Government imposed an across-the-board 3 per cent reduction in departmental base salary and person-year allocations. Inflation adjustments were also restricted to non-controllable areas.

In 1990-91, the Government imposed a 2 per cent reduction, from what they would otherwise have been, to all transfers to municipalities and government-funded boards and agencies. These bodies were protected from a year-over-year absolute decline in funding.

5.3.12.3 Budget Processes and Rules

The budget process in the Northwest Territories is a combination of top-down and bottom-up approaches. Departmental

Operational Plan (OPPLAN) submissions are presented to the Financial Management Board in late summer. OPPLAN submissions include requests for new programs or enhancements, or program reductions. The Board approves new program requests on an individual basis, and then sets an overall funding target for each department based on forecast revenues and the desired budgetary stance.

Departments are then required to prepare their budgets within their funding targets. Although there are budget preparation rules, individual Ministers and Departments have considerable latitude to allocate resources within the target.

The following budget rules have been imposed, to which departments must adhere when preparing their budgets:

a) Inflationary adjustments are provided only in non-controllable areas, and only after the impact of inflation has been demonstrated.

b) No new programs or program enhancements are approved unless they are fully funded from within the department's existing resources.

c) The Financial Management Board must approve any transfer of person-years between communities, due to the infrastructure impact on spending.

d) No funds can be removed from designated non-controllable programs without Board approval.

e) Departments must absorb the cost of reclassifications, performance pay, maternity benefits and reorganizations.

6.0 Selected International Experience with Cost Drivers and Cost-Containment Measures

This section reviews selected international experience with cost drivers and cost-containment measures. The review is divided into three parts. First, a general examination of international spending trends is presented. This overview provides information on sources of cost pressures in selected countries (G-7 countries and Australia). The second part presents a summary of the international experience with cost-containment measures. Finally, reflecting the role of health spending on cost pressures, the analysis focuses on the evolution of spending in this area in selected OECD countries and compares the structures and functioning of their health care systems.

6.1 International Government Spending Trends: General Experience of Some OECD Countries

This portion of the analysis focuses on the total government sector. This sector gives the broadest definition of the government sector; it is the level at which international comparisons can most appropriately be made and for which a consistent set of data has been developed by the OECD.

The data are generally drawn from the OECD System of National Accounts (SNA). They provide a consistent national accounts basis for making international comparisons of fiscal positions and performance for the total government sector. The SNA data have been extended by the Federal Department of Finance using projections made by the OECD secretariat in the December 1990 Economic Outlook. Some series have been estimated implicitly by the Department of Finance on a basis consistent with the SNA.

6.1.1 Overview

General Government Sector Financial Balances (Table 6.1)

- There was a general increase in government spending relative to the size of the economy in most OECD countries over the 1960s and 1970s.

- During the 1981-1982 recession, the cyclical increase in spending resulting from the operation of automatic stabilizers further increased

Table 6.1

General Government Financial Balances[1]

(per cent of GDP/GNP)

	1979	1982	1984	1989	1990[2]
OECD[3]	-2.0	-4.2	-3.6	-1.1	-1.6
OECD Europe[3]	-3.6	-5.1	-4.7	-2.3	-3.2
G-7[3]	-2.2	-4.0	-3.4	-1.0	-3.2
United States	0.5	-3.5	-2.8	-1.2	-2.4
Japan	-4.7	-3.6	-2.1	3.7	3.1
Germany	-2.6	-3.3	-1.9	0.2	-3.1
France	-0.8	-2.8	-2.8	-1.5	-1.2
Italy	-10.2	-11.3	-11.6	-10.2	-10.0
United Kingdom	-3.2	-2.5	-3.9	0.9	0.1
Canada	-2.0	-5.9	-6.5	-3.4	-3.1
Australia	-2.4	-1.4	-3.2	1.6	2.1

1. (-) denotes deficit and (+) denotes surplus.
2. OECD Secretariat estimates.
3. Averages computed using 1985 purchasing power parities.

Source: OECD December 1990 Economic Outlook.

the relative level of spending. Because of cyclical weakness in revenues, the spending increases were accompanied by a general deterioration in government financial balances.

- By the end of the downturn in 1982, most OECD countries faced serious fiscal imbalances. For the area as a whole and for most member countries, fiscal deficits peaked in 1982. Exceptions were the U.K., Italy, Australia and Canada where deficits peaked in 1984. For Italy and Canada, this non-synchronization with the cycle was due to a large public debt and growing public debt charges.

- Japan was also an exception but it saw a more or less steady decline in its deficit from 1979 onwards. As well, spending by the Japanese general government sector was hardly affected by the 1981-1982 recession.

- Following the recession, most countries took policy action to restore fiscal stability. As a result of these actions, most countries have achieved significant reductions in general government deficits since 1984. Some countries have moved into surplus. Efforts at deficit reduction were also aided by the cyclical recovery in output after the trough of the recession.

- After Japan and the U.K., Canada has made the greatest progress in deficit reduction in the G-7. By 1989, in spite of this, Canada continued to run the largest total government sector deficit in the G-7

except for Italy. Recently the German deficit has risen to the same proportion of GDP as Canada's due to pressures from re-unification. Australia engineered a very substantial improvement in its financial balance in a brief period.

Role of Revenues and Expenditures in Deficit Reduction

- Generally, both revenue and expenditure measures were adopted in the effort to reduce government sector financial balances in the OECD area.

- Japan was a major exception in that, although general government sector spending has been cut by 0.3 percentage points of GDP since 1984, revenues have increased by 4.9 percentage points of GDP (Tables 6.2 and 6.3). Nevertheless, the Japanese tax effort as a proportion of GDP remains low compared to other countries.

- The U.K. and Germany were able to improve their financial balances while at the same time reducing revenues as a proportion of GDP.

- The U.K. has been particularly successful: An improvement in the government sector financial balance of 4 percentage points of GDP was achieved by cutting the spending share by 6.8 percentage points of GDP while reducing the revenue share by 2.7 percentage points.

- Among countries outside the G-7 area, Australia has cut spending dramatically and improved its financial balance by over 5½ per cent of GDP.

- Both revenues and spending have increased in the United States; the general government financial deficit, excluding the effect of the pressures of Savings and Loans institutions (S&L) problems, has improved from its peak in 1982 but worsened in 1990. Note that, because of SNA conventions, all U.S. figures presented here exclude the capital outlays of the Resolution Trust Corporation and therefore exclude the effects of S&L failures.

- Total government sector outlays increased in 1990 in most countries reflecting cyclical developments.

Table 6.2
General Government Total Revenues[1]
(per cent of GDP/GNP)

	1979	1982	1984	1989	1990
G-7[2]	34.2	36.2	36.5	38.1	38.2
United States	32.2	33.0	33.0	34.7	34.9
Japan	26.9	30.1	31.1	35.7	36.0
Germany	45.0	46.1	46.0	45.1	42.8
France	44.2	47.6	49.2	48.3	48.3
Italy	35.3	36.0	37.7	41.5	42.3
United Kingdom	39.5	44.6	43.5	40.7	40.8
Canada	37.0	40.7	40.3	41.0	42.9
Australia	31.0	35.8	35.4	34.9	35.7

1. Department of Finance estimate from OECD SNA and December 1990 Economic Outlook data; defined for consistency as Total Outlays plus financial balance.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

Table 6.3
General Government Total Outlays
(per cent of GDP/GNP)

	1979	1982	1984	1989[1]	1990[1]
OECD[2]	37.2	41.3	41.0	39.8	N.A.
OECD Europe[2]	44.6	48.4	48.9	48.5	N.A.
G-7[2]	36.5	40.5	40.1	39.5	40.1
United States	31.7	36.5	35.8	36.4	37.2
Japan	31.6	33.7	33.2	32.9	32.9
Germany	47.6	49.4	48.0	44.8	45.9
France	45.0	50.4	52.0	49.8	49.6
Italy	45.5	47.4	49.3	51.2	52.3
United Kingdom	42.7	47.1	47.5	39.8	40.7
Canada	39.0	46.6	46.8	44.3	46.1
Australia	33.4	37.1	38.6	33.3	33.6

1. Department of Finance estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

6.1.2 Detailed Spending Trends

- The categories reviewed are debt interest payments, government consumption, subsidies, social security and other income-maintenance transfers and capital spending.

i) Debt Interest Payments (Table 6.4)

- High levels of debt and rising interest costs have been major factors in total spending increases in Italy and Canada. Interest costs in the United States have become much more important as deficit has followed on deficit for the U.S. central government and debt levels rose.

- A number of countries have managed to reverse trends to higher debt service costs, most notably the United Kingdom, Japan and Germany. These three countries experienced fairly dramatic improvements in their primary balance. In the U.K. case, the reduction in debt interest payments was temporarily helped by an overly expansionary monetary policy which has now been reversed.

- The rough stabilization of debt interest payments in the U.S. and Australia reflects lower interest rates in the U.S. but a return to fiscal surplus in Australia.

ii) Overview of Program Spending Trends (Table 6.5)

- Program spending in the OECD area have tended to follow the trends of total outlays. This suggests that forces other than levels of debt and interest rates have had an important role in driving government spending.

- The main drivers of program spending in the 1980s as in the 1970s have been in the area of the "welfare state", particularly income support. However, increases in the 1980s have been more moderate than in the earlier period.

- Canada in particular has had better success in reducing program spending than total outlays; as noted above, rising debt charges are a greater burden for Canada than any other G-7 country except Italy.

Table 6.4

General Government Debt Interest Payments[1]

(per cent of GDP/GNP)

	1979	1982	1984	1989	1990[2]
G-7[3]	2.9	4.2	4.8	4.9	5.0
United States	2.8	4.2	4.8	5.0	5.1
Japan	2.6	3.9	4.5	4.0	3.7
Germany	1.7	2.8	3.0	2.7	2.7
France	1.4	2.0	2.7	2.9	3.1
Italy	5.1	7.2	8.0	9.0	9.7
United Kingdom	4.4	5.0	4.8	3.6	3.4
Canada	5.0	7.2	7.8	8.9	9.4
Australia	2.1	2.2	3.0	4.1	4.0

1. Property income paid.

2. OECD Secretariat estimates.

3. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

Table 6.5

General Government Program Spending[1]

(per cent of GDP/GNP)

	1979	1982	1984	1989	1990
G-7[2]	33.1	35.9	35.2	34.6	35.2
United States	30.6	34.7	33.6	34.1	34.7
Japan	29.0	29.9	28.7	29.0	29.2
Germany	45.9	46.6	45.0	42.2	43.2
France	43.6	48.4	49.3	46.9	46.5
Italy	40.4	40.2	41.3	42.7	43.6
United Kingdom	38.3	42.1	42.6	36.4	37.3
Canada	34.0	39.4	39.0	35.5	36.7
Australia	31.3	34.9	35.7	29.2	29.6

1. Total outlays less property income paid; Department of Finance estimates.

2. Averages computed using 1985 purchasing power parities

- As was the case with total outlays, the U.K. and Australia have had the greatest success in reducing program spending. Germany and France have also made significant reductions since 1984.

Government consumption spending (Table 6.6)

- Government consumption spending consist of wages and purchases of goods and services required to provide programs. Because they represent a large share of program spending, close control of these costs through increased efficiency and wage restraint can make a major contribution to spending reduction.

- Control of wage costs and employment growth is discussed in sub-Section 6.1.3 below. Generally, control of wage costs has focused on limiting wage increases relative to the private sector and on reducing the rate of growth, or in some cases the absolute level of public sector employment.

- Canada has had the greatest success in lowering government consumption relative to program spending among the G-7 countries. Nevertheless, the share of these costs remains large in Canada relative to the European countries. Part of this reflects the fact that Canada has the highest wage spending relative to program spending in the G-7 (see Table 6.11 below).

- Only in Italy is the share of these costs now above the 1979 level.

Education and health spending

- Spending on education and health (which includes current consumption plus capital spending) is a major component of government program spending. Average growth rates for health and education over the 1970s and 1980s based on OECD data, are shown in Table 6.7.

- Health and education data are on a real (deflated by government spending deflators) per recipient of service (per student and per family covered by health insurance) basis. The OECD has deflated the data for education and health spending by the overall government spending deflator and as well has adjusted them for recipient.

- While demographic trends favoured a slowing in education spending, real spending per student tended to rise in the early part of the 1980s compared to the 1970s.

- Exceptions are Canada and Japan where real spending per student slowed.

Table 6.6

General Government Consumption Spending

(per cent of program spending)

	1979	1982	1984	1989[1]	1990[1]
G-7[2]	48.6	48.4	48.8	48.8	48.5
United States	58.8	57.0	58.1	58.3	58.3
Japan	33.4	33.3	34.3	32.0	32.0
Germany	42.7	43.8	44.0	43.9	42.5
France	41.0	40.6	40.3	39.6	39.6
Italy	36.6	40.5	40.0	39.9	40.2
United Kingdom	51.1	51.5	50.4	53.5	52.4
Canada	55.3	53.4	51.4	52.5	51.7
Australia	55.0	52.6	52.3	56.3	55.7

1. OECD Secretariat estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

Table 6.7

Education and Health – Real Per Capita Spending[1]

(Average Annual Growth Rates)

	Education[2]		Health[3]	
	1975-80	1980-86	1970-79	1979-88
United States	-	-	5.0	1.3
Japan	3.2	0.9	7.8	3.4
Germany	1.3	1.9	6.5	1.3
France	2.0	3.6	7.1	3.7
Italy	2.4	7.6[4]	5.0	2.5
United Kingdom	-	-	5.7	0.9
Canada	3.6	0.9	4.6	1.4
Australia	-	-	4.6	3.2

1. Periods differ because of data limitations.

2. Average spending per student.

3. Spending per head of population covered by public health insurance.

4. Data refer to 1980-84.

Source: OECD Health Data File 1990.

- In contrast to education spending, real spending for health per insured person slowed in the 1980s. Germany and the U.K. experienced the sharpest drop in spending growth among the major countries.

- A detailed international comparison of health spending and health-care systems is given in sub-Section 6.3.

Social security and other transfers (Table 6.8)

- This category of spending includes old age and disability benefits, unemployment insurance benefits, family allowances and temporary sickness and maternity benefits.

- For most countries, this spending has exerted the greatest upward pressures on program outlays; among the countries reviewed, only in the United States have Social Security and Income Support transfers declined as a per cent of program spending since 1979.

- Particularly large increases in spending share occurred in Japan and Canada although the Canadian share remains at the lower end of the range.

- The Australian experience has been similar to that of Canada.

- Social security benefits have been driven by a general enrichment of programs and by increased old-age dependency ratios in most countries.

- Declines in youth-age dependency ratios have more than offset increased old-age ratios in the 1980s. Consequently demographic developments were probably conducive to spending restraint.

- This effect will weaken in the 1990s as declines in youth-age ratios moderate and old-age ratios increase more rapidly.

- The total dependency ratio will continue to decline in most countries (Japan and Germany are important exceptions) but demographic factors may exert upward pressure on government spending because of the relatively high benefit levels of programs for the aged.

Table 6.8

General Government Social Security and Other Income Support Transfers

(per cent of program spending)

	1979	1982	1984	1989[1]	1990[1]
G-7[2]	36.5	39.0	38.7	39.0	39.2
United States	35.3	37.7	36.1	34.7	34.6
Japan	33.9	36.8	38.4	41.7	42.6
Germany	41.0	43.0	42.0	42.6	44.5
France	46.8	47.7	48.4	49.9	50.4
Italy	36.6	42.3	42.4	44.2	44.2
United Kingdom	32.8	35.7	35.6	35.8	34.8
Canada	28.8	30.3	31.8	33.9	35.1
Australia	30.8	29.1	32.2	34.3	35.0

1. OECD Secretariat estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

- Income support transfers have been controlled in the 1980s by restraining the growth in benefit levels relative to the 1970s.

- Some of this restraint has taken the form of reducing coverage ratios so that in some countries benefits per recipient may have increased as eligibility was reduced.

Subsidies (Table 6.9)

- The objectives of government subsidization are diverse. They include:

  - Regional development/support for depressed regions; support for Atlantic Canada, Northern Ireland and Mezzogiarno, Italy are examples.

  - Support for depressed industries.

  - Support for developing industries.

  - Research and development.

  - Income distribution.

  - Strategic goals.

Table 6.9
General Government Spending on Subsidies
(per cent of program spending)

	1979	1982	1984	1989	1990[1]
G-7[2]	3.6	3.6	3.9	3.1	3.0
United States	1.4	1.5	1.9	1.9	1.9
Japan	4.5	4.7	4.4	2.6	2.3
Germany	4.9	4.0	4.5	4.8	4.3
France	4.5	4.5	5.0	3.6	3.6
Italy	7.7	7.7	7.4	5.7	5.6
United Kingdom	6.1	4.9	5.4	3.1	2.7
Canada	5.8	6.3	7.1	5.0	4.5
Australia	4.7	5.0	4.6	4.1	3.6

1. OECD Secretariat estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

- The measurement of the degree of subsidization is very difficult. Direct government expenditures, generally in the form of direct grants, are easy to measure but these may not closely reflect the degree of subsidization in an industry or in a country.

- In addition to direct grants, instruments of subsidization include tax concessions, equity participation, soft loans and loan guarantees.

- OECD studies, evaluating the various forms of subsidization on a "grant equivalent basis", suggest that grants represent the most important instrument (50 per cent of subsidization) followed by tax concessions, soft loans and equity participation. Loan guarantees are least important.

- Subsidization in the 1980s has reflected concern for "declining industries" -- steel, shipbuilding and mining.

- Rail transport is also heavily subsidized; agricultural subsidies are lower but also significant.

- R&D and developing industry goals are reflected in the subsidization of high technology industries, in particular aerospace.

- Data presented here are consistent OECD SNA estimates of direct government spending and therefore do not provide a comprehensive description of subsidization in the G-7.

- The relative importance of subsidies in government spending varies widely across the countries reviewed. The U.S. has typically spent little on subsidies while Italy, the U.K. and to a lesser extent Canada have had relatively high levels of spending on subsidies.

- All countries except the U.S. have reduced subsidies. The U.K. has had the greatest reduction since 1979. In fact, following an explicit policy of reducing government involvement in the economy, the U.K. has reduced subsidies from about 3¾ per cent of GDP in 1974 to 1.0 per cent in 1990. Spending on subsidies has declined from 6.1 per cent of program spending in 1979 to 2.7 per cent in 1990. Japan has also made a major cut -- to the point where only the U.S. spends less.

- Canadian experience is fairly typical but Canada ranks in the upper part of the G-7 in its degree of subsidization. Subsidies in Canada rose between 1979 and 1984. Since 1984 this form of spending has fallen more in Canada than in any of the other countries reviewed here.

Government investment (Table 6.10)

- There has been concern that, in a period of public sector restraint, governments would tend to under-invest and in particular to underspend on infrastructure.

- Capital spending in most countries has generally declined relative to total spending since 1979 (Italy and France are exceptions) but this trend has been less marked since 1984. In fact, the share of investment spending has increased in six of the eight countries reviewed since 1984.

- Japan has shown the greatest reduction in government investment but Japanese government sector investment as a share of total program spending remains the highest in the G-7 and twice as large as that of Italy, the G-7 country with the next largest share.

Table 6.10
General Government Investment Outlays
(per cent of program spending)

	1979	1982	1984	1989[1]	1990[1]
G-7[2]	9.1	7.7	7.1	7.3	7.2
United States	5.9	5.0	4.5	5.1	4.7
Japan	21.8	19.5	17.7	17.3	16.7
Germany	7.5	6.1	5.2	5.5	5.7
France	6.8	6.6	5.9	6.8	7.0
Italy	7.2	9.3	8.7	8.3	8.1
United Kingdom	6.8	3.7	4.7	4.9	5.5
Canada	7.8	7.1	6.6	6.6	6.8
Australia	10.2	7.7	7.8	7.9	8.2

1. OECD Secretariat estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

6.1.3 Cost of Delivering Programs

Overview

- Governments can control costs by improving the efficiency with which day-to-day operations and the delivery of services are executed. A few OECD countries -- the U.K., Australia, New Zealand and Canada (with initiatives such as PS2000 and the creation of private-sector-like operating agencies) -- have instituted extensive public-sector reforms aimed directly at raising government sector productivity but it is too early to evaluate them at this date.

- Because the delivery of government services is quite labour intensive most governments have focused on controlling wage costs. Wages account for one quarter to one third of program spending. In the OECD area and among the G-7, the share of wage costs in total program spending has declined over the 1980s (Table 6.11). Using 1979 as a base, most G-7 countries (the exception is Italy) experienced declines, with Japan (at 4 percentage points) followed by Canada (at 3.8 percentage points) experiencing the largest declines. Nevertheless Canada has the highest proportion of wage costs to total program spending ratio of the G-7 countries. The United States is a close second.

Table 6.11
General Government Wage Spending
(per cent of program spending)

	1979	1982	1984	1989[1]	1990[1]
G-7[2]	31.4	30.6	30.3	30.0	29.8
United States	36.0	33.8	33.5	33.1	33.3
Japan	27.6	26.4	26.8	24.8	23.6
Germany	23.5	23.8	23.6	23.2	22.4
France	31.2	30.2	29.8	28.8	28.4
Italy	26.7	30.0	28.8	28.3	29.1
United Kingdom	30.5	30.4	29.8	31.6	31.1
Canada	37.9	35.5	34.1	34.1	34.1
Australia	41.2	39.0	36.7	37.3	37.2

1. OECD Secretariat estimates.

2. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; OECD SNA; Department of Finance.

- Governments can control their wage costs by controlling hiring or by bargaining for lower growth in wage rates.

Employment Trends (Table 6.12)

- The picture on employment growth is mixed. The United States saw fairly substantial growth in employment, largely because of the military build-up through the 1980s, while Germany has experienced a recent increase due to unification. Japan, France and the U.K. on the other hand slowed employment growth substantially with Japan and the U.K. witnessing declines in the levels of public sector employment. Canada and Italy only slowed their employment growth marginally over the period. Canada had the fastest growing government employment after the United States among the G-7 countries between 1979 and 1989.

- Despite these diverse movements, public sector employment growth appeared to more-or-less keep pace with total employment growth in each G-7 country. The ratio of public sector-to-total employment has not changed appreciably through the 1980s.

Table 6.12
General Government Employment

	(annual per cent change)			(share in total employment)			
	1979 to 1984	1984 to 1989	1990[1]	1979	1984	1989	1990
G-7	0.6	1.2	1.5	15.4	15.3	15.0	15.1
United States	0.1	2.1	3.0	16.1	15.3	15.1	15.5
Japan	0.7	-0.2	-0.2	8.8	8.7	8.1	7.9
Germany	1.0	1.0	1.5	14.7	15.5	15.4	15.2
France	1.8	1.0	0.2	19.9	22.1	22.8	22.6
Italy	1.4	1.3	0.3	15.8	16.6	17.4	17.2
United Kingdom	-0.3	-0.2	-0.7	21.2	21.8	19.5	19.1
Canada	2.4	2.1	2.1	19.5	20.8	20.3	20.5
Australia	2.7	1.3	0.8	16.2	17.4	15.6	15.5

1. OECD Secretariat estimates.

Sources: OECD December 1990 Economic Outlook; Department of Finance.

Wage Trends (Tables 6.13 and 6.14)

- In general governments have chosen to reduce labour costs by controlling wage growth. Nominal wage growth slowed in the OECD economies along with inflation although in several G-7 economies including Canada it rose again in 1990.

- In real terms public sector wages have grown very slowly or declined. The only exception is Japan, where real wages increased (Japan experienced a decline in public sector employment). The largest decline in real wages was in Canada (which also had the strongest employment growth).

- Relative to the private sector, public sector wages have declined in all the G-7 countries with the exception of the United States and Japan where small increases were registered.

6.2 Summary of Five Individual Country Experiences

This sub-section provides a summary of the experience with cost pressures and expenditure management of five individual OECD countries: the United States, Germany, the United Kingdom, Australia and New Zealand. All five countries reviewed here experienced increases in spending as a proportion of GDP and worsening deficits in the 1970s. By the early 1980s, each of the five countries reviewed had adopted, in a medium-term

Table 6.13

General Government Wage Rates[1]

(annual per cent change)

	1979 to 1984	1984 to 1989	1990[2]
G-7[3]	-	-	-
United States	8.3	4.6	4.8
Japan	4.7	4.1	4.8
Germany	3.4	2.5	4.2
France	12.0	4.1	3.5
Italy	19.1	9.3	13.3
United Kingdom	12.5	7.7	9.0
Canada	8.1	3.7	5.8
Australia	9.5	6.5	6.0

1. Average wages per worker.

2. Based on OECD estimates.

3. Averages computed using 1985 purchasing power parities.

Sources: OECD December 1990 Economic Outlook; Department of Finance.

Table 6.14

General Government Real and Relative Wage

(average annual growth rates)

	Real Wage[1]		Relative Wage[2]	
	1979-84	1984-89	1979-84	1984-89
United States	1.5	0.9	1.4	0.2
Japan	-0.5	2.4	-0.9	0.4
Germany	-0.1	0.1	0.4	-0.2
France	0.0	0.0	-0.7	-0.9
Italy	-0.3	0.2	-1.1	-0.9
United Kingdom	0.0	0.0	-1.6	-3.1
Canada	-0.1	-0.7	0.0	-1.7

1. Relative to the private consumption deflator.

2. Relative to the average private sector wage (excluding social security contributions).

Source: OECD Secretariat.

context, specific policies geared toward fiscal consolidation. The United Kingdom, Australia and Germany were able to substantially reduce government spending. New Zealand and the United States were less successful.

6.2.1 Cost Drivers

- Social services, comprising mainly old-age pensions, welfare, unemployment relief and family allowances have exerted the main pressure on government spending. Program enrichment and extension and cyclical economic factors have primarily been responsible for increased spending in this area. In general, demographic factors have not exerted upward pressure on spending. More recently, social welfare spending has been controlled by fiscal consolidation initiatives but trend reversals have been weak.

- After social security, government consumption and particularly the government wage bill, was the most important area driving the cost of government. This was due both to employment growth and real wage increases. Governments have been more successful recently at controlling wage costs both through wage restraint and employment reductions.

- Debt interest payments rose sharply in the early 1980s and were generally contained thereafter. Only in New Zealand and the United States did debt interest payments rise somewhat above 5 per cent of GDP (consistent estimates by the OECD show Canada's debt interest payments at 10 per cent of GDP). Reductions in debt interest payments were achieved in Germany and the United Kingdom through lower interest rates and financial balance surpluses.

- Public sector investment declined as a proportion of GDP in most countries during the 1970s. Investment was reduced further in the 1980s as a means of cutting deficits.

- Health care costs increased significantly in most countries as a result of many factors, including an increase in the old-age dependency ratio, rapid growth in health costs and the introduction of high-cost, high-technology treatments.

- Education spending declined as youth dependency ratios fell during the 1980s. This was partly offset by increases in real costs per student.

- Spending on public order and safety, although representing a small portion of total outlays, increased in all countries. This category includes law courts, police, fire protection and prisons.

6.2.2 Policy Programs

- Fiscal consolidation strategies varied considerably from country to country -- from broad targets for deficit reduction and spending to comprehensive structural reforms following free market principles. Reductions in fiscal deficits were achieved both through spending restraint and revenue increases.

- In the U.S., deficit reduction targets proved unsuccessful and were recently replaced by spending caps set in real terms to allow for greater-than-expected inflation. A "pay-as-you-go" principle requires that the costs of expanded or new programs be fully covered by cuts in other programs or by discretionary revenue increases.

- In Germany, a 3-per-cent target for nominal spending increases was set by the Financial Planning Council and was successful in reducing the ratio of total outlays to GDP. Economic growth, low inflation, strong real output growth and demographic factors contributed to the success of the policy.

- In Australia, cutbacks in unconditional transfers to state governments were successful in reducing overall public spending. The states were compelled to limit spending, largely through wage bill restraint, since their revenue raising and borrowing capabilities are constrained by institutional arrangements.

- The policy focus in the United Kingdom was on structural changes to enhance the efficiency of the economy. Measures to reduce the size of the public sector (including privatization) and improve public sector efficiency were part of this exercise. Government spending as a proportion of GDP was dramatically lowered.

- New Zealand instituted one of the most ambitious programs of structural reform in the OECD area. High front-end costs of reform measures were partly responsible for spending increases. Spending is expected to decline in the medium term. Deficit reduction was achieved entirely through revenue increases. Tax reform initiatives have established the least distortionary (OECD Secretariat evaluation) tax system in the OECD area.

- Specific policy measures to reduce the growth in social security and other income maintenance programs included: improved targeting of recipients for welfare and unemployment relief (Australia, Germany and the U.K.); assets testing social security benefits (New Zealand

and Australia); increasing the eligibility age for old-age pensions to 65 (New Zealand); and reducing family allowances (Germany).

- Most countries tightened their hiring practices and introduced wage restraint to reduce the largest component of government consumption expenditures --- the wage bill.

- Further action to increase public sector efficiency included: increasing management accountability; reforming government procurement practices to increase competition; creating larger purchasing units; expanding competition through contracting out; corporatization and privatization of government enterprises; and the adoption of full-cost-recovery pricing and user fees for government services.

- Measures to reduce government health care costs included: increasing private provision of health care and introducing efficiency audits in the United Kingdom; and narrowing the coverage to basic services and increasing cost sharing for preventative care in Germany.

- Investment in public infrastructure was perhaps the easiest area in which to cut spending. However, depletion of public capital stock has led to more recent investment increases in the U.K. and Germany.

- Industrial and agricultural subsidies were substantially reduced in the U.K. and New Zealand as part of their strategy to increase efficiency.

6.2.3 Conclusions and Lessons for Canada

- The review of the international experience reveals how similar the problems have been. The greatest upward pressures on government spending have come from social security and other income maintenance programs.

- The actions taken in the various countries to address financial problems have also been broadly similar.

    - Governments have controlled spending through the adoption of medium-term plans aimed at both fiscal consolidation and broader economic objectives.

    - Policies which have been intended to control spending have included wage and employment restraint, better program targeting, privatization and increased reliance on market mechanisms and signals.

- Public investment has also been reduced. However, this has led to deteriorating public infrastructure and renewed upward pressure on spending.

- Achieving fiscal goals has been more successful when policies and processes have been changed to respond to new developments.

- The main lesson for Canada is that no country has discovered a painless alternative to the range of measures involving more effective medium-term planning, public sector management reforms, more effective targeting of social programs, exposing business operations to more competition to increase efficiency and so on. Many of these measures have already been taken by governments in Canada.

6.3 International Comparisons of Health Spending and Systems

This sub-section presents a summary comparison of health spending in six of the G-7 countries (Italy not included). The focus is on factors which accounted for the differences in health spending across countries and on the organization of health care systems in these countries.

6.3.1 Cross-Country Comparisons of Health Care Spending

There are many ways of presenting spending in order to make cross-country comparisons but the most popular method is clearly to express them as a proportion of GDP. Most comparisons are based on data found in the OECD health data files. The components of health spending are: private consumption of medical care (hospital care, physicians, pharmaceuticals, etc.) and general government outlays on health care.

- In 1987, nominal per capita health care spending adjusted according to purchasing power parities totalled $US2051 in the United States, $1483 in Canada and $1090 in France, which ranked third.

- Among the six countries (Table 6.15), Canada ranked second in total health care spending as a proportion of GDP in 1987. Health care spending was 8.8 per cent of GDP in Canada, compared with 11.2 per cent in the United States, which was well ahead of the

Table 6.15
Total and Public Health Spending – 1975-1987
(per cent of GDP)

	Total Spending				Public Spending			
	1975	1980	1985	1987	1975	1980	1985	1987
Germany	7.8	7.9	8.2	8.0	6.3	6.3	6.4	6.3
Canada	7.4	7.4	8.5	8.8	5.6	5.5	6.4	6.3
United States	8.4	9.2	10.6	11.2	3.6	3.9	4.4	4.6
France	6.9	7.6	8.5	8.5	5.3	6.0	6.5	6.4
Japan	5.5	6.4	6.7	6.8	4.0	4.6	4.8	5.0
United Kingdom	5.5	5.8	6.0	6.1	5.0	5.2	5.2	5.2
Average	6.9	7.4	8.1	8.2	5.0	5.2	5.6	5.7

Source: OECD, Health Data File, 1989.

others, and 6.1 per cent in the United Kingdom, where the proportion was the lowest.

- Public spending as a share of total spending on health care (Table 6.16) was around 75 per cent in most of these countries except the United Kingdom, where it was 86 per cent and the United States, where it was 41 per cent.

Table 6.16
Share of Public Health Spending in Total Health Spending
(per cent)

	1975	1987
Germany	80	78
Canada	76	74
United States	42	41
France	77	75
Japan	72	73
United Kingdom	91	86

Source: OECD, Health Data File, 1990.

It is important to analyze variations in the numerator and the denominator of health care spending as a proportion of GDP.

- From 1975 to 1987, the compound annual rate of growth of nominal health care spending (HS) was 10.8 per cent in Canada, 10.6 per cent in the United States and 6.1 per cent in Germany; GDP growth rates were 9.3 per cent, 7.9 per cent and 5.9 per cent respectively. Canada had the third lowest increase in the HS/GDP ratio and Germany the lowest.

An important step in analyzing changes in spending is to differentiate between inflationary impact and real spending growth (Table 6.17, columns 3 and 6).

- The countries studied rank differently with respect to health spending per capita depending on whether real spending growth rates or nominal spending rates are calculated. From 1975 to 1987, the compound annual rate of growth of real health care spending per capita was 1.9 per cent in Canada (Table 6.17, column 6 minus column 7). With the United Kingdom, this constitutes the lowest rate of growth of the six countries studied.

- Real health spending as a proportion of real GDP has declined from 1975 to 1987. This decline has been more pronounced for Canada and Germany than for the other four countries.

- It appears that the increase in the relative price of health care in relation to the GDP deflator was higher in Canada and the United States than in the other countries studied. During the period from 1975 to 1987, the excess inflation rate of health care was 2.0 per cent in Canada and 2.2 per cent in the United States (Table 6.17, column 5).

In addition to understanding why one country spends more (or less) than another, it is also important to understand why spending growth differs across countries.

An analysis of the elasticity of spending in relation to GDP during different periods yields many interesting results (Tables 6.18 and 6.19). We see that Canada is one of the countries that best controlled health care expenditures during the period from 1960 to 1987, but on the other hand, Canada experienced one of the highest increases in costs since the beginning of the 1980s.

Table 6.17

Decomposition of Health Spending Increases into Price, Population, and Volume-Intensity Increases

1975-1987

	Annual compound rate of growth, 1975-1987								
	Share of health spending in GDP 1975 (1)	Nominal health spending growth (2)	Health care price deflator (3)	Of which: GDP deflator (4)	Of which: excess health care inflation (5)	Real spending growth (6)	Of which: population growth (7)	Of which: per capita volume intensity growth (8)	Share of health spending in GDP 1987 (9)
Canada	7.4	11.8	8.6	6.5	2.0	2.9	1.0	1.9	8.8
France	6.9	13.2	7.6	8.8	-1.1	5.2	0.5	4.7	8.5
Germany	7.8	6.2	3.9	3.4	0.4	2.2	-0.1	2.3	8.0
Japan	5.5	9.1	4.1	2.9	1.2	4.8	0.8	4.0	6.8
United Kingdom	5.5	13.0	10.8	9.7	1.0	2.0	0.1	1.9	6.1
United States	8.4	11.7	8.1	5.8	2.2	3.3	1.0	2.3	11.2

Source: OECD, Health Data File, 1989.

Table 6.18

Elasticity of Per Capita Health Spending Relative to Per Capita Gross Domestic Product – Nominal Terms

	1960-1987	1960-1975	1975-1987	1960-1970	1970-1980	1980-1987
Canada	1.14	1.19	1.19	1.26	1.00	1.31
France	1.23	1.27	1.19	1.34	1.22	1.20
Germany	1.33	1.35	1.09	1.28	1.47	1.03
Japan	1.25	1.21	1.31	1.28	1.31	1.10
United Kingdom	1.17	1.22	1.12	1.22	1.14	1.05
United States	1.34	1.43	1.30	1.45	1.20	1.33
Average	1.24	1.28	1.20	1.31	1.22	1.17

Source: OECD, Health Data File, 1989.

Table 6.19
Elasticity of Per Capita Health Spending Relative to Per Capita Gross Domestic Product – Real Terms

	1960-1987	1960-1975	1975-1987	1960-1970	1970-1980	1980-1987
Canada	1.19	1.31	0.94	1.36	0.99	0.63
France	2.05	1.65	2.94	1.64	2.56	3.61
Germany	1.47	1.33	0.94	1.00	2.08	0.84
Japan	1.46	1.30	1.36	1.30	2.55	0.65
United Kingdom	2.40	2.59	0.98	2.18	2.41	0.52
United States	2.13	2.18	1.06	1.78	1.94	0.50
Average	1.78	1.73	1.37	1.54	2.09	1.12

Source: OECD, Health Data File, 1989.

- During the period from 1960 to 1987, Canada had the lowest per capita nominal elasticity of spending (1.14). It is notable that during the 1970 to 1980 period, Canada did better than the other countries in controlling health care spending: the nominal elasticity of spending was 1.00. However, Canada had the second highest elasticity from 1980 to 1987 (1.31).

- During the period from 1960 to 1987, Canada also had the lowest per capita elasticity of real health care spending (1.19). From 1980 to 1987, the real elasticity (unlike the nominal elasticity) was relatively low in Canada compared to the other countries. The difference between the real and nominal elasticity during the 1980s reflects the size of the relative increase in the price of health care.

Economic and demographic factors can explain these differences. Some factors can explain upward pressures on health care spending within countries without explaining differences in health care spending levels between countries. The aging of the population is an example of such a factor, given that most countries are experiencing this.

6.3.2 Cross-Country Comparisons of Health Care Systems

The type of health care system is a key factor explaining differences in spending shares between countries. There are three principal models currently in use:

i) The National Health Service (Beveridge) model, characterized by universal coverage, general tax financing and public employment of health care personnel and public ownership of health care infrastructure (United Kingdom).

ii) The Social Insurance (Bismarck) model, characterized by publicly funded universal insurance coverage of health care recipients (Canada, Germany, France and Japan).

iii) The private provision model, characterized by private insurance of health care recipients, private provision of health care services, and private ownership of health care infrastructure (United States).

Health care systems have two important elements: financing of the costs of health care and the production of health care. As we have just seen, both elements can be dominated by the private or public sector.

Financing of Health Care Costs

Financing of health care costs has two important elements: source of financing and method of reimbursing providers (physicians and health care institutions). Both elements affect the behaviour of patients and health care providers.

Source of Financing

Costs may be financed via general tax revenues or via private subscriptions to insurance funds or a combination of both. In the United States, the poor and the elderly are covered by tax revenues, the rest of the population may enrol in a private insurance plan or be covered by insurance offered by employers. Failure to make such arrangements involves exposure to very large costs in the event of a medical "catastrophe".

- It has often been argued that systems which have no user fees lead to inflated demand and, therefore, high spending pressures. Some countries have introduced fees for selected services (ambulatory and hospital services, drugs) in order to ration demand. These fees have usually been very low. In general, there does not seem to be a clear correlation between the charging of user fees and spending levels or even utilization rates.

- Governments in all the countries studied except the United States provide universal arrangements which cover more than 90 per cent of their populations for hospital and ambulatory care. As for pharmaceutical costs, Canada and the United States cover less than 90 per cent of their respective populations (this analysis does not include tax relief measures).

Reimbursement Methods

Four different methods of payment are used to reimburse hospitals: the annual budget (global or by article), daily payments, payments per case (such as diagnostic related groups or DRGs) or payments on a fee-for-service basis. France, Canada and the United Kingdom reimburse on the basis of annual global prospective budgets, Japan uses the fee-for-service method and Germany uses daily payments. In the United States a variety of methods are used; this is presently done by Medicare but becoming more and more popular is prospective reimbursement per medical case (DRG).

- Logically, the method of prospective global budgeting, which includes services rendered by physicians to hospitalized patients (as used in the United Kingdom), should provide the most effective control on spending. However, it is highly likely that most of the control exerted on spending results simply from greater rationing and not from increased cost-effectiveness.

- The DRG method, which is used in a large part of the United States system, can lead to increased efficiency but requires an information system that most countries, including Canada, do not have.

Methods of remunerating physicians are important because payments to physicians represent the second highest component of health care spending and their decisions have a significant impact on the rest of the system. The most popular methods of payment are capitation, salary and variants of the fee-for-service method. Payment per case is being studied in the United States but it is not in general use. In most of the

countries studied, except the United Kingdom, payment on a fee-for-service basis is the most popular method for ambulatory care. Physicians working in hospitals, however, are commonly paid a salary.

- Countries paying salaries or capitation may spend less than countries with unlimited fee-for-service payments. However, one must go beyond spending related strictly to ambulatory care to gain a good understanding of the full impact of these payment systems on overall health care spending. Physicians can have considerable influence on demand for hospital care and pharmaceutical products.

- One way of reducing the perverse effects of the fee-for-service payment method is to set a limit on the number of services for which physicians can receive a full payment. Québec and Ontario have already implemented such measure.

Health Care Production

The system of production of care can be described in two parts, each related to the other: types of care provided (diagnostics, treatments and technology) and the system for delivering care (in patient vs ambulatory care, physician vs paramedics, etc.). We have not discussed variations in the care that is provided but it should be pointed out that care can vary considerably across countries and even between regions in the same country. The organization of the system is an important determinant of costs. There is an increasing tendency to redesign care delivery systems to achieve efficiency gains. It is increasingly understood that there must be a system to give accurate cost signals to decision-makers (and patients) and to encourage greater efficiency.

- On the basis of our small sample, countries for which the ambulatory care sector (Germany and Japan) is almost as significant as the hospital sector, in terms of costs, seem to control their spending better than (or as well as) other countries.

- In the two countries with the smallest number of physicians per 1000 inhabitants (Japan with 1.57 and United Kingdom with 1.37), overall health care spending as a proportion of GDP are also the lowest (Table 6.20).

- Measures have been taken in most countries to limit the increase in the number of physicians in practice.

Table 6.20

A Few Indicators of "Utilization" and "Resources" – 1987

	Use of inpatient care, bed days per person	Inpatient care admission rates, percent of population	Patient days per admission, inpatient care institutions	Consultations and visits per capita	Inpatient medical care beds per 1000 persons	Practising physicians per 1000 persons
Germany	3.5	21.1	17.1	11.5 (1986)	11.73	2.81
Canada	2.0 (1985)	14.5	13.2	6.6	16.10	2.15
United States	1.3	14.1	9.3	5.3 (1986)	5.19	2.34
France	3.0	21.7	13.5	7.1	10.23	2.5
Japan	3.9 (1986)	7.5	52.9	12.8 (1986)	15.24	1.57
United Kingdom	2.1	15.8	12.4	4.5 (1986)	6.83	1.37
Average	2.6	15.8	13.1*	8.0	10.9	2.12

* Does not include Japan.

- For institutional care, ambulatory care, and pharmaceutical products, inflation was higher than the increase in the GDP deflator in all of the countries studied during the period from 1975 to 1987, with the exception of France and pharmaceutical products in the United Kingdom.

Aging of the Population and Long-Term Care

Aging of the population could cause a problem in many OECD countries. The elderly consume on average four times more care than the rest of the population.

- The problem could be worst in Canada and Japan.

- In Canada, as in many other countries, hospitals provide long-term care (or simply medical care) to a relatively high proportion of the elderly population simply because there may be insufficient specialized long-term care facilities and/or home care.

6.3.3 Conclusions

Two main factors proved to be significant explanatory variables for cross-country differences in levels of spending: the level of per capita GDP (positively correlated to HS/GDP) and the degree to which the public

sector is involved in the financing and/or production of the health care system (negatively correlated to HS/GDP).

The United States (with its highly privatized system) spends significantly more than all the other countries. Nevertheless, there are more than 30 million people who are not insured in the United States and the satisfaction rate of the population with respect to the health care system is the lowest (10 per cent). This would lend support to the view that imperfections in the private health care market place (asymmetric information between the patient and the physician, between the individual and the insurer, imperfect competition, monopolistic behaviour, etc) may make the free market less efficient than public provision.

The dominant factor in the control of costs is control over the financing of the system; universal financing means that care providers are faced with a monopsony. Moreover, this enables a global budget for the health care system to be created, thus allowing overall spending to be controlled centrally. However, even if governments set spending limits, overall spending will not necessarily stop increasing. "Black markets" may develop outside the controlled sector. This is why regulations concerning medical practice, price determination and restrictions on prescriptions must complement global budgeting for it to be effective.